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VOLUME VIII

SEPTEMBER, 1913

NUMBER 3

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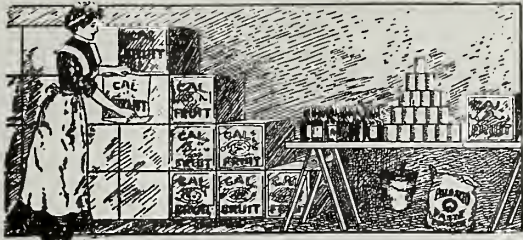
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Pear Culture at Home and Abroad

By Prof. C. I. Lewis, Oregon Agricultural College, Corvallis

FOR the past ten years there has been a steady increase in interest in pear culture in the Pacific Northwest. This interest is due to a number of causes. One of these is that California developed the pear industry until it became the leading state in the Union in the production of this fruit, while the Rogue River Valley in Southern Oregon has become noted the world over for the high class pears which it produces. Again, there is the fact that while many states are planting apples very heavily, statistics show that very few states are giving the pear any attention, consequently more and more growers are favoring the pear above the apple.

Pear culture in Europe has for a number of centuries attracted a great deal of attention. In fact the pear has in the past received, and is now receiving, more attention than the apple. A recent French catalogue that I picked up listed a thousand varieties of pears, and Belgium and France have been looked upon as the home of the pear. In the early part of the last century Van Mons, the Belgian plant breeder, attracted world-wide attention by introducing a large number of new pears. The blight, which is the great scourge of the pear in this country, being an American disease, was unknown to the Europeans. The French have contributed more literature on pear culture than any other nation. Thousands of varieties are described fully by such men as Du Hamel, Decaisne, LeRoy and Mas. Many of these works give colored plates and very full descriptions of varieties. The early American books gave a great deal of space to pear culture and described many varieties of pears. During that period of American history when nurseries were few and far apart, and the farmers planted seed for their orchards, many new varieties of fruit originated. During this epoch our leading varieties of apples were produced, and likewise many pears. Such varieties as Howell and Seckel are of American origin. During the early part of the last century the blight was raising such havoc among the orchards that pear growers were becoming very much discouraged. This gloom was brightened somewhat, however, by the introduction from Europe of the leading varieties of pears, and our American pomologists like Barry, Downing, Thomas and Warder became decidedly enthusiastic over these importations. The pears that were introduced into this country in the early days were of the European blood (*Pyrus communis*). A little later

some of the sand pears (*Pyrus sinensis*) were introduced. They attracted, however, very little attention because the quality of the fruit was about equal to that of a raw potato. However, they hybridized with the former and as a result the Kieffer and later hybrids were produced. These hybrids were not so susceptible to blight and they extended pear culture southward, as the Oriental pear would stand warmer climatic conditions than the European pear.

What is the present status of pear culture in this country? Investigation will show that only two or three states are gaining in acreage, a few are barely holding their own, while the great majority are losing ground. We find the pears of pure European blood succeed best where the trees make but a moderate growth, and where the combination of climate and soil produces a firmwooded, hardy tree. For the Eastern States, New York, New England and Michigan seem to offer the best conditions for successful pear growing, and on the Pacific Coast Western Washington and Western Oregon are especially adapted for the production of this fruit. Those regions of the Pacific Coast that have rather warm climatic conditions during the growing season and must depend largely upon irrigation, will be able to grow pears only by using the greatest care in retarding the growth of the trees. The blight will probably always be a problem, and scientific methods of control will doubtless go a long way toward making pear culture successful in such regions. Concerning the growing of such pears as the Kieffer many of the Middle Western and Southern States are growing this variety successfully.

In choosing a location for a pear orchard the ideal conditions will be, first, such climatic factors as produce slow growth; second, good air drainage so as to reduce the frost damage; third, the selection of congenial soil, and fourth, the planting of well adapted varieties. Having favorable climatic conditions and good air drainage, the question of the adaptability of the varieties to the soil is one of the most important matters. It has long been known that certain varieties of pears will grow on very heavy land—on land that is too heavy for apples. This has led many people to believe that any marshy or swampy land which their farm contains, which is unadapted to any other crop, will grow pears successfully; and while it is true that some varieties of pears will grow on very heavy soil, it is essential, however, that

this soil be drained if best results are to be hoped for. Standing water on the soil is not conducive to the best vigor and growth of the tree. The question of variety adaptability is largely a local one, and it will be some time before each community can satisfactorily answer this question. The Bartlett seems to be a variety which adapts itself to a great many conditions, growing well on many soils, from the heaviest to the lightest. The Bosc is doing well on heavy soils. The Howell, while doing well on some of the lighter loams, is showing indications that it will do even better on the heavier soils. The Winter Nelis requires a strong, rich soil and prefers the moist loams to the light, dry loams. The Anjou and Comice seem to prefer the lighter loams, although many fine Anjous are gathered from rather heavy soils. Here in the Pacific Northwest very few varieties of pears are being grown. The Clairgeau is about the only variety not mentioned that is being grown commercially. There are undoubtedly many varieties of pears which will succeed with us, and at the Southern Oregon Experiment Station at Talent hundreds of European varieties of pears are being tested. To the pear grower I would suggest that he try a few varieties that are not now commonly grown, advising, of course, that he experiment on a limited scale. Among the pears that I would advise him to look up and experiment with are Glout Morceau, President Druard, Duchess Bordeaux, Forelle, Santa Claus and Charles Ernest.

The question of stocks to use is one which is largely in the experimental stage. Up to very recently our nurserymen were using almost exclusively what is known as French seedling stock. This is of *Pyrus communis* blood. Recently, however, many of our Pacific Coast nurserymen are discarding this stock and are using the sand or Japanese pear. The reasons are that the French stock is attacked by the root louse, whereas the sand pear is not, and the latter is also more resistant to blight. However, the question of the union of this stock with all varieties has not been thoroughly worked out, neither are we as familiar with the adaptability of this stock to various soils and climatic conditions. Other stocks that are being used are Kieffer, Kieffer Seedling, Winter Nelis Doubleworked, Winter Nelis Seedling and Mountain Ash. Pear growers will be pleased to know that the Oregon Experiment Station is working on this problem. Professor F. C. Reimer of the Southern Oregon Experiment Sta-



Japan Pear. Washington Nursery Company, Toppenish, Washington, June 11, 1913

tion at Talent is taking charge of this work. Where dwarf pears are to be used, the Angers Quince is the best stock. The Portuguese can be used, however, to good advantage where the climate is very mild. The quince should be worked to either Koonce or Angouleme, and these in turn are worked over to whatever varieties are desired. While the dwarf pears have not been tried out very extensively as yet, there are some people who believe they are a better commercial proposition than the standards. Mr. Stephen Harmeling of Vashon, Washington, is one of the best authorities on this subject on the Pacific Coast, and I am hoping that he will favor the readers of "Better Fruit" in the near future with an article treating on the use of dwarfs or any other experiences that he has had with pears.

The distance for planting pears will vary from twenty-two to thirty feet, according to soil and climate. Many of our varieties of pears are sterile and do not set fruit well with their own pollen. The Comice comes in this class, and the Anjou sets fruit poorly with its own pollen. In fact even with self-fertile varieties I would recommend planting so as to secure cross-pollination. I would suggest two lists, early bloomers and late bloomers. For Oregon the early bloomers are Bartlett, Clairegeau, Anjou, Howell, Kieffer; late bloomers, Angouleme, Bosc, Comice, Easter, P. Barry, Winter Nelis. Any two early bloomers or any two late bloomers will inter-pollenate satisfactorily. Plant from two to six rows of a variety, as this will prove more economical than mixing them in the rows. In an article of this length it is impos-

sible to go into all the details of pollination, soil treatment, pruning, etc. The care of the soil is about the same as that given for apples. One should avoid, however, producing an excessive wood growth, so that the cultivation, the irrigation and the use of stimulants, like commercial fertilizers and manures, must be more carefully studied than with the apple. The pruning is much the same as that given for apples. The open type of tree is the more approved form, as it is believed that it is easier to fight blight with such a tree than where the central leader is allowed to remain. Care should be used, however, in starting the trees to get the main branches well spaced. The greater the distance between branches the better. Should the blight get into the crotch of a tree, where the branches come from one point, the tree will become greatly weakened. After the trees come into bearing, moderate annual pruning should be the rule. It is believed by some growers that the Anjou will stand more pruning than some other varieties. Summer pruning will be beneficial in overcoming the tendency of some varieties to bear on the tips of branches.

Practically all Pacific Coast pears are being boxed, and by the use of pre-cooling, refrigeration cars and cold storage the season of most of our varieties of pears has been greatly lengthened. Howells and Comice keep until Christmas and Anjous until February. The export trade in pears is of considerable importance and our best trade in England will be for Christmas pears. Late winter pears will have to compete with South African Bartletts, which reach the English markets about

the last of January. The canning of pears is becoming a tremendous industry and the planting of Bartletts for canning factory use, when conducted on a commercial scale, is proving a satisfactory business. The Eastern housewife is learning to can the Kieffer and the demand for Kieffer pears is increasing very rapidly.

There is a splendid opportunity to increase the consumption of pears. A campaign of education is necessary. For example, the Bosc pear is very little known, yet its quality is superb. But because of its unattractive form and color it is not a good show-stand fruit. When once known, however, it becomes very popular. Our Pacific Coast pear growers must strive to find out what each market prefers and must try to introduce in new markets our better quality fruits. There is no region in the world that can surpass the Pacific Coast in pear production. The quality is unexcelled and the flesh so firm that it stands shipping well. With such an asset we should be able to increase the consumption of pears very materially in the next decade.

Editor Better Fruit:

Just a word now concerning "retail apple storage." Here and elsewhere, go into the grocery stores, restaurants and other places where boxed apples are sold and you will find a number of boxes open in warm rooms, and the apples soon become wilted, stale, indigestible, absorbing tobacco smoke from the loafers. Is it surprising that such apples don't call for repeated orders? Personally I have always desired to have my apples furnished from storage. We used to bring our Delicious from storage about twice a week and open up a day's supply at a time. Then deliciously delicious. Your association will have to educate your retailers as to the displaying, the keeping and the marketing of your apples. With kind regards, we are your very truly, William P. Stark, president William P. Stark Nurseries, Stark City, Missouri.

Pear Culture in the Famous Rogue River Valley, Oregon

By F. C. Reimer, Southern Oregon Experiment Station, Talent

THE pear is rapidly becoming the leading fruit in the Rogue River Valley. It is true that more apples than pears have been shipped out of the valley during past years, and more will undoubtedly be shipped out during the present season, nevertheless the output of pears during the past two or three years has almost equalled that of apples; and it is only a matter of a few years when the output of pears will be greater than that of apples. During the past three years the planting of pear trees has exceeded that of apples, and during the season just passed at least three times as many pear trees as apple trees were planted. Where old apple orchards are being replaced the pear in nearly every instance is supplanting them.

There are excellent reasons for this. First, our growers have found pear growing more profitable than apple growing, due to the small output of pears throughout the United States as compared with the output of apples. Statistics show that the pear industry in nearly every state in the Union, with the exception of Oregon, has been on the decline. Many of the extensive orchards in the East and nearly all of those in the South have been wiped out by pear blight. And in two of the leading pear states the pear thrips has become a very serious menace to the industry. Perhaps the most important reason, however, for the growth of the industry in this valley is the fact that the natural conditions are very favorable to this fruit. The winters are very mild and damp so that the fruit buds of the most tender varieties are never injured by winter cold. The summers are long, warm, sunny and comparatively dry. This gives ample time for all the late varieties to mature properly, and it also insures a very firm fruit which has remarkable keeping and shipping qualities, enabling growers to ship their fruit to the large Eastern and European markets. Under these climatic conditions some of the serious fungous troubles have never become serious, as will be explained later in this article.

The valley is surrounded on all sides by high mountain ranges, hence it is remarkably free from high winds. This is of great importance during the late summer and fall months when the fruit is maturing. Some of our finest varieties, as Comice, Howell and d'Anjou, are tender skinned, and during strong winds when the fruit is being rubbed by branches, or even leaves, the delicate skin is bruised and discolored. The absence of strong winds has much to do with the success of these varieties in this locality. During the last stages of ripening the fruit of some varieties is readily shaken from the tree by strong winds, rendering it unfit for distant shipment. This is particularly true of the Clairgeau, the Howell and to some extent of the Bartlett, especially the seedless specimens. With

the exception of the Clairgeau, which is grown only to a limited extent, it is very rare indeed that any of the varieties suffer seriously from this cause here.

The pear blooms early in the spring, and during unfavorable seasons the blossoms are injured or killed by heavy frosts. Such injury can usually be avoided by orchard heating or smudging. It is not difficult to retain the heat and smoke in and over an orchard where there are no strong winds. This is why orchard heating is so extensively and successfully practiced in this valley. The bright, sunny weather



The delicious Bosc as grown in Southern Oregon

which usually prevails, and the absence of strong winds, are very favorable to bees in cross-pollinating the blossoms. Another important characteristic is the long blooming season of the various varieties. This gives ample opportunity for the proper cross-pollination and fertilization of the blossoms. The blooming season lasts about two weeks, and some varieties are often in bloom for three weeks.

Most of the soils are very heavy, containing a high percentage of clay. It is well known by experienced pear growers that the pear delights in such soils. These soils are very retentive of moisture, insuring the proper development of the fruit without irrigation when properly tilled. Chemical analysis shows that practically all of them are very rich in potash, lime and magnesium. These elements are of great value in fruit growing. The lime and potash insure a firm fruit of good keeping quality, and the potash also forms

the basis of the various fruit acids which are so essential in the development of high quality. The large quantities of lime in the soil also prevent the souring of the land where proper drainage is lacking. According to the soil survey made by the Bureau of Soils there are forty-three types to be found here. Some of these are admirably suited to pear culture, while others are of little or very doubtful value for this purpose. With such a variety of soils it is not difficult to find types suited for the different varieties. As a rule the heavier soils such as the clays, clay loams and adobes are preferred for pears. The soil should be rather deep and of at least average fertility. It must also be well drained for most of the varieties, especially for the Comice, d'Anjou, Bosc and Howell. The Winter Nelis and Bartlett can endure far more moisture and poorer drainage than any of the other varieties. The Bartlett can be grown on a greater variety of soils than any other variety, but for best results a deep, rich clay loam should be selected. The Winter Nelis must have a moist, strong soil to obtain good size and large crops. The Comice is very particular about soil and is extremely sensitive to unfavorable soil. On the moist rich soils the tree grows too vigorously and is a shy bearer. It does best on a warm, well drained sandy or silt loam or very light clay loam.

The distance apart to plant the trees depends on the variety. Upright growers like Comice and Bartlett may be planted as close as 20 by 20 feet. Howell, Bosc, Clairgeau and d'Anjou should have 25 by 25 feet, while Winter Nelis, which is a large and spreading tree, will require 30 by 30 feet. Planting may be done either in late fall or very early spring. Unless the work can be done very early spring planting should be discouraged. On the heavier soils the soil does not become well settled around the roots when planted late in the spring, and unless irrigation is practiced many of the trees will die or make a very poor growth the first season.

The cultivation of pear orchards is similar to that of apple orchards. It should commence early in the spring and must be thorough. Since very little irrigation is practiced it becomes necessary to maintain a deep dust mulch on the surface. Where the soil is deficient in humus, which is true in most of the orchards, a winter cover crop should be grown to supply this. For this purpose we have found the following excellent: Rye, winter oats, barley and winter vetch. The seed should be sown about the first of September.

The question of pruning is a large and important one under the peculiar conditions in the valley. On the heavier soils the trees are usually slow in coming into bearing and heavy pruning augments the trouble; therefore the minimum should be given that



Winter Nelis, finest of all winter pears

will insure a strong and properly formed framework. Some of the pruning done is altogether too heavy. One thing is essential in pruning pears where pear blight exists, and that is to grow the vase-shaped or open-center tree. This gives a much better opportunity to fight the disease. The central leader should not be permitted in a pear tree, as the loss from blight under such conditions is very great. In pruning the habit of the variety must be taken into consideration. The Comice, which is a strictly upright grower, and the Bosc, which is a straggling grower, should not be pruned alike.

The valley is fortunate in being free from some of the most serious insects which attack the pear in some other sections. The true pear thrips, which is proving so serious in two other pear states, has never been found in this valley. The pear psylla, which is so serious in the Eastern States, has never been introduced. The most serious insects that we have to contend with are the codling moth, the San Jose scale, the blister mite and the rusty leaf mite. These are all controlled by proper spraying.

The only very serious disease of the pear here is the pear blight. This is a bacterial disease and is so widespread and generally known that a description is not necessary here. This disease has been vigorously fought in this valley almost from the time of its introduction about seven years ago. A thorough system of inspection has been maintained and rigid regulations have been enforced. The growers have been instructed to recognize the disease and in proper methods of combating it. It should be stated that they are fighting it vigorously and effectively. Fortunately the pear scab, one of the worst fungous diseases of the pear, has never given any serious trouble owing to our dry summer atmosphere.

Since the pear blooms early and the best pear soils and orchards are found on the floor of the valley, frosts often endanger the pear blossoms. To overcome this, frost fighting has been suc-

cessfully practiced for a number of years. For this purpose wood, old tree prunings and manure were first burned, but during the last three years crude and distillate oils have been largely used. As the methods and practices have been so fully described in various issues of "Better Fruit" and experiment station and government bulletins it will not be necessary to go into the details of the practice in this article.

It is fortunate that the pear industry in this valley was started by a man who was familiar with the best commercial varieties of pears. He not only knew their commercial value but also their soil requirements. As he planted many commercial pear orchards and was for many years the leading spirit in the industry here, the variety selections have as a rule been very good. After many years of pear growing it is doubtful whether better selections of varieties could be made today in most instances. It is also fortunate that the commercial plantings have been largely confined to a small number of varieties. At the present time only six varieties are extensively grown. These are Bartlett, Howell, d'Anjou, Bosc, Comice and Winter Nelis. Clairegeau and Buerre Easter are still grown in limited quantities. P. Barry is now being planted in some of the newer orchards. The Bartlett has been more extensively planted than any other variety in the past, and is still popular. As this variety ripens early and as it often competes on the market with the latest shipments of Bartletts from California, many of our growers are top grafting their Bartlett trees to some of the later varieties.

More mistakes have probably been made by growers in planting the Comice than with any other variety. For years this variety has been regarded as the standard of excellence for quality and has always brought the highest prices. Hence the variety has been widely planted, and often on moist, rich, cold soils, where it has proved a shy bearer. This variety is extremely sensitive to unsuitable soils and very limited in its range of adaptability. It will therefore always be produced in limited quantities; and the grower who has suitable soil and can grow it successfully is very fortunate indeed. This variety is notably self-sterile. During the past five years the Bosc has become very popular and is now being very extensively planted. It comes into bearing rather young, is a heavy and regular bearer, the tree is adapted to several types of soil and the fruit is of excellent quality. The variety grows to perfection here and becomes exceptionally large. In fact the only criticism the market has made of the variety as grown here is its large size, especially when grown on very rich, moist soils. The d'Anjou has always been a very popular variety here, and it is very highly regarded by the commission men and the consumer. It attains good size, is of excellent quality and a good shipper. The tree is slow in coming into bearing and on some soils has proved a shy bearer.

The Howell is well suited to the conditions here. It comes into bearing young, is a heavy and regular bearer and is adapted to a variety of soils. It is rapidly decreasing in popular esteem, however, because of its susceptibility to blight and the difficulty with which this disease is controlled in this variety. The Winter Nelis has always been the most popular very late variety. There will probably never be an overproduction of this variety, as it is very particular in its soil requirements and is very tardy in coming into bearing. It is also very sensitive to weather conditions during the blooming season and often fails to pollenate properly.

It is a notable fact that nearly all of our leading varieties have originated in Europe. Bartlett comes from England, Bosc and Winter Nelis from Belgium and Comice, Clairegeau and d'Anjou from France. The Howell is the only American variety that has been largely grown here. The P. Barry and Seckel, two other American varieties, have not been extensively grown here up to the present time. It is readily seen from the above that there is much room for improvement in the matter of varieties. Every variety mentioned has some objectionable features about it. We believe that varieties more suitable for certain reasons may possibly be obtained. Of all the cultivated varieties in existence not more than fifty have ever been grown in this valley and not more than fifteen have ever been extensively and thoroughly tested. This experiment station is now testing several hundred varieties of pears from all parts of the world to determine their suitability to the local conditions.

The North Pacific Fruit Distributors

The North Pacific Fruit Distributors are figuring on handling 5,000 cars, possibly more. Others estimate the North Pacific Fruit Distributors will handle 60 per cent of this year's crop of apples.



A perfect box of Bartlett Pears

Grading and Packing Rules, North Pacific Fruit Distributors

UNANIMOUSLY adopted after three days' discussion by a committee of twenty-four, consisting of the trustees and sales manager of the North Pacific Fruit Distributors, the head inspectors and other representatives of all the sub-central districts affiliated with the North Pacific Fruit Distributors.

APPLES

The grade to be used will be designated as Extra Fancy, Fancy and "C" grade, and defined as follows:

Extra Fancy.—This grade shall consist of sound, smooth, matured, clean, hand-picked, well-formed apples only; free from all insect pests, disease, blemishes, bruises and other physical injuries, stings, scald, scab, sunscald, dry or bitter rot, worms, worm holes, decay, spray burn, limb rub, water core, skin puncture or skin broken at stem. All apples must be of good matured color, shape and condition characteristic of the variety.

The following varieties defined as to color shall be admitted to this grade: Solid red varieties—Aiken Red, Arkansas Black, Black Ben Davis, Fall Wine, Gano, Jeniton, Jonathan, King David, Mammoth Black Twig, Missouri Pippin, Oregon Red, Spitzenberg (Esopus), Steele Red, Vanderpool and Winesap. Striped or partial red varieties—Ben Davis, Delicious, Gravenstein, Hubbardson Nonesuch, Jeffries, King of Tompkins County, McIntosh Red, Rome Beauty, Northern Spy, Stayman, Snow, Wagener, Wealthy and York Imperial.

Color requirements for extra fancy are as follows: Solid red varieties to have not less than three-fourths good red color, and the size of 175 and smaller when admitted to this grade to have at least ninety per cent good red color. Striped or partial red varieties, as designated above, to have not less than one-half good red color, and when the size of 175 or smaller is admitted to this grade they must have at least three-fourths good red color, except that Gravensteins, Jeffries and King of Tompkins County in all sizes must be at least one-third good red color. Red Cheek or blushed varieties such as Hydes King, Red Cheek Pippin, Winter Banana, Maiden Blush must have a red cheek. Ortleys must be white, yellow or waxen. Yellow or green varieties such as Grimes Golden, White Winter Pearmain, Yellow Newtown and Cox's Orange Pippin must have the characteristic color of the variety.

No sizes admitted to this grade smaller than as follows: Aiken Red, 200; Arkansas Black, 175; Ben Davis, 163; Black Ben Davis, 163; Cox's Orange Pippin, 163; Delicious, 150; Fall Wine, 200; Gano, 163; Grimes Golden, 200; Gravenstein, 200; Hubbardson Nonesuch, 163; Hydes King, 150; Jeniton, 200; Jonathan, 200; Jeffries, 225; King of Tompkins County, 163; King David, 200; Mammoth Black Twig, 150; Missouri Pippin, 200; McIntosh Red, 200; Maiden Blush, 163; Northern Spy, 150

Oregon Red, 175; Ortley, 175; Rome Beauty, 163; Red Cheek Pippin, 163; Spitzenberg (Esopus), 200; Steele Red, 163; Stayman, 163; Snow, 225; Vanderpool, 163; Winesaps, 225; Wagener, 200; Winter Banana, 150; White Winter Pearmain, 200; Wealthy, 200; Yellow Newtown, 225; York Imperial, 163. All boxes to be lined and cardboard to be



The famous Comice, which has made Rogue River Valley famous throughout the markets of the world.

used top and bottom. All apples to be wrapped.

Fancy Grade.—In this grade all apples must be matured, hand-picked, clean and sound, free from insect pests, water core, sun damage, skin puncture or skin broken at stem, scald, dry or bitter rot, worms, worm stings, scale, infectious diseases and all other defects equally detrimental, excepting that slight limb or leaf rub, scratches or russeting will be permitted, provided that no apple shall show total blemishes aggregating more than one-half



The famous Bartlett, most widely cultivated of all varieties of pears.

inch square. Fruit clearly misshapen, bruised or bearing evidence of rough handling shall not be permitted in this grade. The varieties admitted to this grade are the same as in the extra fancy.

Color requirements are as follows: The solid red varieties must have fully one-third of good solid red color. Striped or partial red varieties must have at least one-fourth good red color; red cheeked or blushed varieties must have correct physical qualities with tinge of color. All apples of a green or yellow variety shall be of characteristic color.

No sizes shall be admitted to this grade smaller than as follows: Aiken Red, 175; Arkansas Black, 163; Ben Davis, 150; Black Ben Davis, 150; Cox's Orange Pippin, 150; Delicious, 150; Fall Wine, 175; Gano, 150; Grimes Golden, 175; Gravenstein, 175; Hubbardson Nonesuch, 150; Hydes King, 150; Jeniton, 175; Jonathan, 175; Jeffries, 200; King of Tompkins County, 150; King David, 175; Mammoth Black Twig, 150; Missouri Pippin, 175; McIntosh Red, 175; Maiden Blush, 150; Northern Spy, 150; Oregon Red, 163; Ortley, 163; Rome Beauty, 150; Red Cheek Pippin, 150; Spitzenberg (Esopus), 175; Steele Red, 150; Stayman, 150; Snow, 200; Vanderpool, 150; Winesap, 200; Wagener, 175; Winter Banana, 150; White Winter Pearmain, 175; Wealthy, 175; Yellow Newtown, 200; York Imperial, 150. All boxes to be lined and cardboard to be used top and bottom. All apples to be wrapped.

Single Grade.—The following apples to be packed in one grade, combining the extra fancy and fancy grades, as provided by these grading rules, size not smaller than 163 count, windfalls absolutely excluded. This pack to be marked or labeled as fancy: Apple of Commerce, Baldwin, Ben Hur, Bismarck, Canada Red, Chicago, Champion, Delaware Red, Golden Russet, Hoover, Ingram, Kaighn Spitzenberg, Kentish, Kinnard, Mann, Mother, McMahon, Northwestern Greening, Pewaukee, Pryor Red, Rambo, Rhode Island Greening, Roxbury Russet, Russian Red, Salome, Shakelford, Senator, Stark, Swaar, Wallbridge, Westfield, Willow Twig, Yellow Bellefleur. All boxes to be lined and cardboard to be used top and bottom. All apples to be wrapped.

Exceptions.—Summer varieties such as Astrachan, Bailey's Sweet, Beilheimer, Duchess, Early Harvest, Red June, Strawberry, Twenty Ounce Pippin, Yellow Transparent and kindred varieties not otherwise specified in these grading rules, together with early fall varieties such as Alexander, Blue Pearmain, Wolf River, Spokane Beauty, Fall Pippin, Waxen, Tolman Sweet, Sweet Bough and other varieties not provided for in these grading rules, as grown in sections of early maturity, shall be packed in accordance with the grading rules covering fancy grades as to defects, but regardless of color rules;



French Pear. Washington Nursery Company, Toppenish, Washington, June 11, 1913

size not smaller than 163 count for the larger growing varieties and 225 count for the smaller growing varieties; wind-falls to be absolutely excluded. All boxes to be lined and cardboard used top and bottom.

"C" Grade.—This grade is provided to be used when market requirements justify and shall consist of apples not smaller than 163 count. This grade shall be made up of all merchantable apples not included in the extra fancy or fancy grades. Apples must be free from all insect pests, worms, worm holes and infectious diseases. Serious physical injuries, skin puncture, bruised or broken skin will not be permitted and not exceeding two stings thoroughly healed. There are no requirements as to color except that the fruit must be matured. This grade to be packed in accordance with trade requirements.

Recommendation. — Your executive board advises the use of the regular Northwestern standard apple box, inside measurements $10\frac{1}{2} \times 11\frac{1}{2} \times 18\frac{1}{4}$, with solid ends. Inasmuch as the laws as well as the trade requirements will force us to sell our apples by numerical count, we abolish the system of designating or manifesting fruit by tiers and will employ the numerical system exclusively hereafter. The recognized and endorsed counts for the Northwestern standard apple pack are as follows: 36, 45, 48, 56, 64, 72, 80, 88, 96, 104, 112, 113, 125, 138, 150, 163, 175, 188, 200, 213, 225.

Crabapples.—These should be carefully assorted as to varieties, making

one grade only, keeping out all insect pests, worm holes, stings, scale, misshapen and blemished fruit. Put up in apple boxes; line the box; fill in gently so as to prevent bruising.

Lady Apples.—These should be packed in half boxes, boxes lined, remembering that the more attractive the better the sale. Make only one grade, keeping out all insect pests, worm holes, stings, scale, misshapen and blemished fruit.

PEARS

Bartlett, Buerre Clargo, Clapps Favorite, Buerre d'Easter, Flemish Beauty, Duchess, Howells and other varieties not otherwise specified in these rules shall be packed in two grades, being the fancy and the "C" grade. Standard boxes, $8\frac{1}{2} \times 10\frac{1}{2} \times 18\frac{1}{4}$, only to be used and the following weights to be observed: Bartletts, Buerre Clargo, Buerre d'Easter, Flemish Beauty to weight from fifty to fifty-two pounds gross. Clapps Favorite and Howells to weigh from forty-eight to fifty-two pounds gross. Winter Nelis to weigh at least forty-six pounds gross. Grades defined as follows:

Fancy.—This grade shall consist of pears not less than two inches in diameter (except Winter Nelis, which shall not be less than one and three-quarter inches). Must be hand-picked, clean and sound, free from insect pests, sun damage, broken skin, scald, scale, worms, worm stings, infectious diseases and all other defects equally detrimental, excepting that slight limb or leaf rub, scratches or russetting will be

permitted, provided no pear shall show total blemishes aggregating more than one-half inch in diameter. Pears must have stem or part of same intact. Fruit clearly misshapen, bruised or bearing evidence of rough handling shall not be permitted in this grade.

"C" Grade.—This grade to consist of all merchantable pears not included in other grade, but must be free from worms, scale, stings or other insect pests. Slightly misshapen pears or pears having limb rub or other defects not spoiling the merchantable quality of the fruit shall be accepted. Punctures or skin broken at stem must be kept out. Size of fruit to be not less than two and one-quarter inches in diameter, except Winter Nelis, which shall be not less than one and three-quarter inches.

Buerre d'Anjou, Comice, Buerre Bosc. These three varieties shall be packed in three grades, being extra fancy, fancy and "C" grade. When packed should not weigh less than forty-eight to fifty pounds gross. Grades defined as follows:

Extra Fancy.—This grade shall consist of pears not less than two inches in diameter; must be hand-picked, clean and sound, free from insect pests, sun damage, broken skin, scale, scald, worms, worm stings, infectious diseases, limb or leaf rub, misshapen fruit and all other defects equally detrimental. Fruit bruised or punctured or showing other evidences of rough handling shall not be permitted in this grade. Pears must have stem or part of same intact.



Photo by Parker Studio

Willamette Valley Prune Growers' Association in Convention at Armory, Salem, July 3, 1913. Four hundred prune growers from Oregon, Washington and Idaho attended this meeting for the purpose of formulating plans to standardize the prune pack, fresh and evaporated.

Fancy.—This grade shall be but slightly below the extra fancy pack and shall consist of pears not less than two inches in diameter (except Winter Nelis, which shall not be less than one and three-quarter inches); must be hand-picked, clean and sound, free from insect pests, sun damage, broken skin, scald, scale, worms, worm stings, infectious diseases and all other defects equally detrimental, excepting that slight limb or leaf rub, scratches or russeting will be permitted, provided no pear shall show total blemishes aggregating more than one-half inch in diameter. Pears must have stem or part of same intact. Fruit clearly misshapen, bruised or bearing evidence of rough handling shall not be permitted in this grade.

"C" Grade.—This grade should be the same as the "C" grade provided for the other varieties of pears.

Seckel Pears.—These should be packed in half boxes, the top faced and then box filled gently so as to prevent bruising. Boxes to be lined. Make one grade only, keeping out all insect pests, worm holes, stings, scale, misshapen and blemished fruit.

PEACHES

Peaches should be picked for packing only when fully developed, but firm or hard ripe. Yellow-meated varieties should show some yellow color. The fruit should be picked and laid in the baskets or pails, not dropped, and should be taken from the vessel only at packing table. All possible care should be used to avoid bruises. Use standard peach boxes; cleats on top only. Use 4d special orange box cement nails for bottoms and sides. Drive nails one inch from corner; four nails to each piece. Use three 4d cement box nails to each cleat—one in the center and one driven two inches from the end of the cleat. The cover should hold the fruit firmly in the box, but should not bulge more than three-eighths of an inch. Use four and one-half inch boxes only for Elberta peaches, running 50 to 84, both inclusive, avoiding the use of extra cleats except in extreme cases. Peaches that are too large to be laid in the box five wide should be packed two and three in four and one-half inch boxes. If the peaches are roundish, as in the case of

Crawfords, it will be necessary to use some four-inch boxes with this pack. Peaches that will go five across the box or smaller should be packed three and three in four-inch boxes. The excellence of the pack depends upon uniform grading. The peaches in a box should not vary more than one-eighth inch in diameter. All grades must be carefully wrapped in suitable paper.

Peaches that run less than 96 to the box should not be packed for shipment. Eighty-four count should be the minimum for Elbertas. In packing the box should set on an incline with the lower end of the box to the packer. Both tiers should be carried forward together. The peaches should be placed in the box stem-end down, those in the top tier resting in the spaces between those in the lower tier so that no peach will rest squarely on top of another. Pack all peaches with the loose end of the wrapper down. No overripe, under-size, immature, bruised, misshapen, diseased, wormy or otherwise defective fruit should be packed. Overripes may be packed for special purposes with the letter "R" marked on the end of the box. All marks should be placed on one end of the box only. The variety shall be placed in the upper right-hand corner; the number of peaches in the upper left-hand corner and the grower's name at the top in the middle and name of local district in the lower right-hand corner. Use rubber stamps. Each local district shall employ an inspector qualified to give instructions in picking and packing, and whose duty it will be to see that each packing house is superintended by persons competent to enforce these rules.

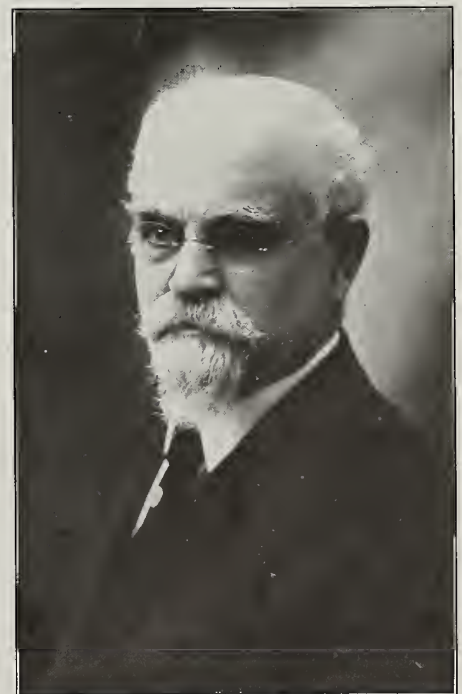
CANTALOUPE

With a view of promoting this important industry more care must be used in grading and packing. It is absolutely necessary that a standard grade be adopted as well as a standard of pack. The commercial counts as recognized for cantaloupes are the 36 count or Jumbos; the 45 count for Standards, the 54 count for Pony. There must be a straight pack, uniform size cantaloupes in each grade, clean and at a stage of uniform ripeness that will permit long-distance shipment.

We urge you to keep closely in touch with your district inspectors. For such fruits as cherries, apricots, plums, prunes and Yakimines we would urge you to refer to the book of instructions that will be issued by the North Pacific Fruit Distributors, and we urge upon you at the same time the necessity of keeping closely in touch with your local inspectors, who will be posted as to the urgent needs that surround these several varieties.

Economy in Harvesting the Fruit Crop

It has been demonstrated that fruit sorting and grading machines are big factors in reducing the cost of handling and packing. Several machines were put on the market last year. These have been improved and some new ones are being manufactured for this season. The fruitgrower can get several different types of grading machines at various prices. It is now possible for the fruitgrower to grade apples by machinery into the different tiers, or even to grade into each bin of a particular size for marking each number packed. Machines are now being manufactured so as to handle apples with the utmost care, eliminating the possibility of bruising that occurred in the first models of the first machines patented. We believe fruitgrowers should investigate for themselves both by sending for pamphlets of description and securing as much information as possible from users of machines as to the economy in handling the crop this way. Nearly every fruit-grading machine issues a descriptive catalogue containing price lists, and we certainly believe it is advisable for every fruit-grower to investigate the machines for sorting, grading and wiping. Some are especially designed for Northwestern use and some are designed for general use.



John Hall, Secretary of National Nurserymen
Rochester, New York

CHARLES WHITE & HALL, Ltd.

Fruit Exchange

Victoria Street, LIVERPOOL

SPECIALTIES: FANCY APPLES AND PEARS

Co-operation in Advertising the Apple

U. Grant Border, before International Apple Shippers' Association Convention, Cleveland, Ohio, 1913

WITHIN less than a decade a wonderful change has taken place in the economics of all business. That old competitive conception, "Every man for himself and the devil take the hindmost," is surely, if slowly, being abandoned, and business is entering a new and better era—the era of co-operation and co-ordination. Everyone here recalls the bitter enmity which at one time existed between business competitors. Now, many of these erstwhile enemies are shining examples of peace and prosperity, the direct result of the working spirit of co-operation. A very interesting example of what co-operation may do is furnished by the three auction companies of New York City. These companies for years wasted their energy and capital striving to prevent each other from doing a profitable business. Now, without loss of identity, the three companies are conducting business and holding auctions without conflict under one roof, to the very great advantage of buyer and seller, and the pecuniary profit of the auction companies themselves. Another example is that of the seven competitors in Buffalo, who incorporated the Buffalo Fruit and Produce Company for the purpose of better regulating supplies—and so all over the country these economic changes are taking place.

But what of our friend the apple producer? How does co-operation appeal to him? You know he prefers to carry on his business without any foreign advice. His general inclination is to not only grow and pack the fruit himself, but to market it himself. His annual custom at crop time has been to seek the cool of his porch, smoke his pipe contentedly, and listen to the clamor of bidders and buyers. Between crops he spends his time perfecting his fruit, perfecting his pack, and making two apples grow where one grew before, giving no thought to that other most important factor of likewise increasing consumption. So finally another crop time rolls around—again he seeks the cool of his porch, again he smokes his pipe, days pass, he begins to wonder if his calendar is right.

He consults his wife, the postmaster, the station master, finally his friend the banker, who intimates that perhaps the buyers he expected have not yet redeemed the autos they pledged in the spring, and just then is when Mr. Producer has his "point of view" rudely changed. He now sees things from a different angle. He now realizes that while there are many things he can do without the need of co-operation, still if he would force lagging consumption to keep pace with enthusiastic production, he must work with others—he must co-operate.

Feeling that the grower's attitude had changed, and that he would now not only welcome, but seek advice and help, the International Apple Shippers' Association one year ago at Chicago appointed its advertising committee to devise ways and means to work harmoniously together with the producer, in a general uplift plan of publicity. As chairman of that committee I desire to take this opportunity to publicly thank all those loyal friends of the cause for their unselfish support, without which our plans would surely have died a-borning. Especially do I thank our secretary, Mr. Phillips, and our president, Mr. Loomis, for when encouragement and inspiration were most needed these gentlemen always abundantly supplied it. And I take this occasion to recognize the unstinted support accorded me by growers in all sections and especially the valuable services rendered by Mr. L. E. Meacham, advertising representative of a large body of the organized growers of the Northwest.

A detailed formal committee report at this time would prove tedious, so I shall simply mention the most interesting features of the work accomplished and outline the plans for the future. First, two appeals for funds were mailed, resulting in contributions from seventy firms and individuals amounting to \$900. With this money work of an educational and preliminary character was accomplished. We had printed 20,000 of these posters in which we aimed to persuade the retailers to

favor many sales at small profits, as against the few sales at exorbitant prices. We enclosed one of these "Striking Statements" in the folders and mailed 13,000 of them to a select list of retail dealers in large consuming centers. Much favorable comment was received. Notwithstanding that we enclosed no postage for reply, we received over 1,400 answers from retailers pledging their support. That very tangible results were attained there is no doubt. We received a letter from a Philadelphia retailer, who owns a chain of stores, saying he would make special sales of apples in all his stores. Mr. Pennington tells of a customer of his coming to him one day with this folder in his hands: "Say, Pennington, is this thing true?" Pennington saw that his name was printed on it, so had to say yes whether he thought so or not. "Well, by jiminy, that sounds good to me" said the grocer. "I'm going to try that this week." So that retailer, instead of selling three to five boxes a day, as had been his usual custom, increased his business so as to handle readily fifty boxes each day, making greater aggregate profits, besides giving his general stock a big advertising boost.

We early realized that the foundation of all effective advertising must be laid in the consumers' homes, and for that reason we paid Miss Mackey, of the State College at Pullman, Washington, for the privilege of publishing her "One Hundred and Ninety-seven Ways to Prepare Apples." It is among our plans for the future to place one of these books in each home—for the more ways the consumer knows for getting rid of apples the quicker he comes back for more.

The all important task of securing for our work a continuous supply of money was our next consideration. The stamp plan was decided upon, which is based on the old war tax idea of the government. The stamps will be sold to shippers, who will affix one to each barrel or box of apples he markets. The proceeds from the sale of stamps will be used to defray the expenses of

a national advertising campaign. We have had 10,000 pamphlets printed describing the stamp plan; also many special articles telling of our plan were prepared and sent to more than a hundred agricultural papers. The reception given to the stamp plan was very favorable. It was sanctioned by the executive committee of our association. It has the unqualified endorsement of the most prominent apple men of America, and has been declared entirely practicable and feasible by men who have given the subject much thought. We therefore decided to negotiate with the American Bank Note Company to lithograph us a first installment, 3,000,000 stamps, two-thirds of one-cent and the balance of two-cent denomination. We also had cards printed showing an enlarged reproduction of the stamp in colors. All being in line with the necessary educational work among shippers, growers and bankers at producing points. The stamp bears the inscription across a big apple, "Co-operative Advertising to Increase Apple Consumption." Printed in a circle around the apple are the words: "Trustee of the Fund, The Equitable Mortgage and Trust Company of Baltimore," also "Authorized by the International Apple Shippers' Association in Conjunction with Advisory Board of Apple Growers." Enclosing all is an endless chain, four links of which at the corners are inscribed respectively, "For Growers," "For Shippers," "For Dealers," "For Consumers." Arrangements were made with the Equitable Mortgage and Trust Company of Baltimore to act as trustee, to handle the entire output of stamps, and to place to the credit of the advertising fund the proceeds from the sale of the stamps. The trust company will furnish any bank with the stamps as needed, while many of the banks throughout the producing sections will always carry a supply. The fund thus obtained will be subject to check or draft only when signed by four authorized officials, who will first have passed upon the validity of the expenditure. The stamps are in no wise to be a guarantee of quality or pack, but the user of the stamps will receive benefits not enjoyed by others, for, all things else equal, the stamped package will receive preference in all markets. Retailers will soon be taught to prefer stamped packages, "all else equal," for he will realize that the stamps pay for an educational campaign which is designed to help his business. Another thing, the stamp itself is the best advertisement of the plan itself. Other shippers seeing it, will learn of its purposes and will be induced to join with others in the work.

Now, assuming we have our stamp plan in operation, and funds are coming into the treasury, what have we in mind to do with the money? First let me assure you that we will always have the advice of expert advertising and publicity men of known ability and high standing, and while all expenditures will necessarily be governed by the amount of money available, it has been definitely decided to issue the



Fruit Labels
OF
QUALITY AND DISTINCTION

They're the only kind we make. If you are looking for the unusual and attractive in handsomely Lithographed Labels let us submit some samples and suggestions.

**NO ORDER TOO SMALL
NO ORDER TOO LARGE**

Schmidt Lithograph Co.
— SAN FRANCISCO — LOS ANGELES —
PORTLAND, SALT LAKE CITY, SEATTLE



A man with four hands might nail up box
apples without an

Edgemont Lid Press

All other men need a press with nail stripper and cleat box, brackets to hold lids, a perfect treadle ratchet and cleat hooks to hold cleats while nailing.

We use the Edgemont Lid Press ourselves;
our neighbors use them.

Write for circulars and prices to

H. PLATT & SONS, Como, Montana

booklet, "One Hundred and Ninety-seven Ways to Prepare Apples," and distribute them through retailers and otherwise until every consumer's home in the country is supplied. Of course this will not all be done at once. We will first work the larger consuming centers, New York, Chicago, Pittsburg, Boston, then as funds come in we will take up other sections, until all are finally covered. It has also been decided that a trained newspaper man be employed as a press agent. Articles will be prepared by the best writers in the country for the feature pages in metropolitan Sunday papers. Health and beauty articles will be prepared by noted doctors, health commissioners and others, to be published in the big magazines. Moving picture slides prepared by the best artists will be thrown on the canvas while reels are being changed. Motion plays featuring apple cookery will be arranged for. Metal

display signs, emblazoned with a big red apple, and some catchy motto, as "An apple a day keeps the doctor away," will be distributed among retailers, particularly the outside Greek stands. Daily papers will be given many squib ads, such as "Every youngster needs an apple when his daddy needs a smoke." Street car cards with health and beauty mottos will be provided. A National Apple Day will be established—a day on which the appetites of America's millions will be turned toward the only fruit which can claim the distinction of being a national fruit. These are just a few of the possibilities, all of which will come to pass if you do your duty. I don't fear your opposition, for I don't think there are two men in the business opposed to the plans, but I do fear your indifference. Oh, what a very little is necessary from each to make all prosperous!

POSITION WANTED

Horticulturist—College trained—Three years' experience at orcharding in Oregon as horticulturist and manager. Fair knowledge of agriculture. Mechanical and executive ability, temperate, married. Can furnish best of references from past employers. Address "C," care Better Fruit Publishing Co., Hood River, Oregon

ADVERTISEMENT

Competent, energetic young man is looking for a ranch to lease; or will take management of large estate for right salary. Thoroughly understands stock raising, fruit growing, general farming and landscape gardening. Best of references. Californian, age 27. Address, "L. G." care "Better Fruit"

NURSERYMEN, ATTENTION**WANTED, POSITION AS NURSERY SALES MANAGER**

Salesmen or mail order; 17 years' experience with large nursery; unquestionable references; successful record. Now employed. Also efficient accountant and book-keeper; will make good. Successful selling plans; ability to handle large business and get results. Address "Results," care "Better Fruit," Hood River

Position Wanted!

By an experienced orchardist with executive ability, as foreman. Temperate and not afraid of work. Understand vegetable growing also. References. Address "W," care "Better Fruit."

By authority of the executive committee of our association, I am now appointing an advisory board of one hundred men to represent the growers' interests in this campaign, about half of whom have already been named and accepted. I am anxious to complete the list, and want every apple growing section in the country represented. It is inspiring to know that those who have already accepted are among the largest and most prominent apple men in America. I am confident there are many here who could help me to complete this list. I will be greatly pleased to meet any of these gentlemen at the advertising headquarters—and, by the way, let me say that no man should leave this convention until he has visited the advertising room and has received some of the inspiration that has come to that room from every apple state in the Union, as well as Canada. Go to that room yonder and read what prominent men think of this proposition. See what Hale says, and Fletcher. I wish I had time to read some of their splendid letters. But no matter what these men write or think—no matter what you write or think—nothing will come of this without your unselfish and patriotic support. This is a big work, and requires the assistance of many hands. The total value of the apple crop is over one hundred million dollars. A very small percentage spent in judicious advertising will place our business on a sound, enduring basis. Hear me, men, one-tenth of what Wrigley spends would add millions to the value of the apple crop, besides making it easier for everybody to do business, grower, jobber and retailer.

Ah! but someone says, that's theoretical, or at most problematical. Not at

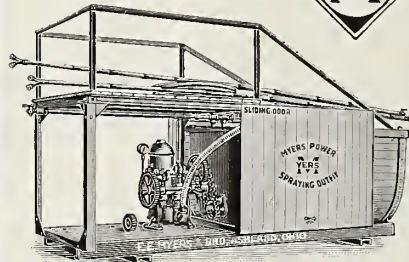
all. Apple advertising has been tried in Chicago and Portland with wonderful results. In Portland, a city of forty thousand homes, after a brisk advertising campaign, there followed a three days' special sale, during which time six hundred retailers sold twenty thousand boxes of apples. The advertising manager who conducted the campaign assures me that the sales of apples subsequent to the three special sale days were considerably heavier than prior to the special sale. I believe all will agree that if each home in Portland had been supplied with one of the books giving one hundred and ninety-seven ways to prepare apples, the subsequent or repeat orders would have been doubled or trebled. What advertising did in Portland it will do in New York, or Boston, or Pittsburg. Whether your crop be large or small, any money invested in advertising increases the commercial value of your fruit. If a speculator is assured that \$50,000 or \$100,000 is to be spent in judicious advertising, will he not be more liberal in his offers? Each can of Royal baking powder, whether in storehouse or on the retailer's shelf, is worth one hundred cents on the dollar. Why? Simply because it is an article of known merit and the best advertised of its class. If the manufacturers of that baking powder offered you their entire output next year—the identical article they are now putting out, but put up under an unknown, unadvertised brand, you wouldn't have it for fifty cents on the dollar.

There has been noticed an undercurrent of pessimism among apple men the past year or so. Ask these pessimists the reason and they will cry "Overproduction." I don't believe there ever will be an overproduction of good apples. Overproduction of the best fruit ever created? Why, you might as well talk of overproduction of health or happiness! Overproduction of apples! Don't talk to me of overproduction when there are 20,000,000 wage earners and 30,000,000 school children who leave home every day without an apple in their lunch baskets! History records but one year when there were too many apples, but that is harking back to Adam. Do you recall the panic which struck terror in the hearts of the apple holders last February? They had just read the report, 6,000,000 boxes in storage! Not a mother's son of them but cried, Too many! Too many! It was perfectly natural for these holders to be frightened, but they attributed their fright to the wrong cause—there were not too many apples, but too little interest among consumers. I am told those apples cost the producer sixty-eight cents per box before storage or shipping charges. If one cent a box had been tacked to that original investment, the cost would have been sixty-nine cents per box, but a fund for publicity would have been available that would have prevented any panic and would at the lowest calculation have returned twenty-five cents per box more to the grower. In other words,

WRITE

F. E. MYERS & BRO.

for a copy of their
SPRAY PUMP CATALOG NO. SP13
if you are going to spray
this Fall or next Spring



It will give you an idea of the extended line of **Myers Spray Pumps**—built in all styles and sizes—from the smallest bucket outfits to the medium capacity barrel equipments, and up to the large power rigs; also a complete line of **Nozzles, Hose, Fittings, etc.**

Tell us your spraying requirements, and we will be glad to assist in choosing an outfit that will best answer your purpose, and give you name of our nearest dealer. Your letter should be directed to

**No. 120 Orange Street
Ashland, Ohio**

Ashland Pump and Hay Tool Works

ORDER YOUR

LOGANBERRY PLANTS

from the largest bearing yard
in the world. All tip plants for
delivery in the spring of 1914.

Prices for Any Quantity
on Request

ASPINWALL BROS.

Brooks, Oregon

**Do You Want a Home
IN THE
Beautiful Ozarks**

of Missouri, in the famous Strawberry Land? Apples, Peaches, Pears, Grapes, Raspberries, etc., all grow excellently. Ideal location for the dairy and poultry business.

The winters are mild and of short duration. An abundance of rainfall during the summer months assures plenty of moisture for growing crops.

We offer for sale 60,000 acres of land in 40-acre tracts or more, cheap and on easy terms. Located in Stone and McDonald Counties. For further information address

McDonald Land & Mining Company

Rooms 301-2 Miners Bank Building

JOSEPH C. WATKINS, Mgr., Joplin, Missouri

**Vehicles and
Agricultural Implements**

**THE BEST OF
ORCHARD AND GARDEN TOOLS
A SPECIALTY**

Gilbert Implement Co.

HOOD RIVER, OREGON

the 6,000,000 boxes at one cent each would have given \$60,000. This fund would have been the means of returning to the owners of those 6,000,000 boxes \$1,500,000 more than they actually received.

Coco Cola sells because its manufacturers' advertising campaign arouses and sustains the interest of consumers. Our campaign should also never allow the consumers' interest to lag. If, Mr. Grower and Mr. Shipper, there should ever be another year when there are not enough buyers interested in your apples, it will be only because of your own short-sighted and narrow-minded policy. It will be only because you fail to take advantage of the present opportunity to create a perpetual income for continuous advertising. I don't believe the apple men of America are going to let this chance slip by. I won't believe they are poorer business men than the Hawaiian pineapple growers, or the orange and grapefruit producers. Each individual member of our association has a work to do that no one else can do for him. The five hundred and fifty members of our association can make this plan an instantaneous success. How? Why, by starting out to stamp every package of apples he owns; by using his influence to have every other man with whom he deals do the same, and finally by advertising to his shippers that stamped packages, all other things equal, will receive the preference. Gentlemen, I feel that the movement is to receive such a mighty impetus here today that it will go on growing in ever increasing volume until every grower from the Portland of Maine to the Portland of Oregon will be linked together in one grand co-operative brotherhood, whose motto will be: "Count that day lost whose low descending sun, sees apples sold for less than cost, and business done for fun."

Walla Walla Shipped the First Carload of Fruit

The first carload of fruit shipped by the North Pacific Fruit Distributors was sent forward on July 9 for Montana points. It was a mixed car of cherries, berries, early apples, peaches and apricots. This car was handled through the sub-central at Walla Walla.

THE WASHINGTON STATE FAIR NORTH YAKIMA

Sept. 29, 30, Oct. 1, 2, 3, 4, Inc.

The Agricultural Event of the Great West

PREMIUMS — \$35,000.00 — PURSES

6 Every Day—RUNNING RACES—Every Day 6

\$1,000 00 goes to the DERBY winner

Indian Relay Races

See the Sensational Aeroplane Flights, Balloon Ascensions and Parachute Drops

Thrilling Sham Battle will take place between the Indian Warriors and U. S. Troops

Three Brass Bands -- Music all the time

Gorgeous Fireworks

Fun--On the Midway--Fun

EXCURSION RATES ON ALL RAILROADS

THE LARGEST FRUIT STORE ON POYDRAS STREET

JOS. CHALONA CO.

NEW ORLEANS LOUISIANA

Extra Fancy Northwestern Box Apples
Our Specialty

Keep in touch with us

FRUIT GROWERS, YOUR ATTENTION

Royal Ann, Bing and Lambert cherry trees; Spitzenberg and Newtown apple trees; Bartlett, Anjou and Comice pears, and other varieties of fruit trees.

A. HOLADAY

MONTE VISTA NURSERY

SCAPPOOSE, OREGON

Travel Comfort Assured

— VIA —

North Bank Limited Trains

Portland and Spokane, Walla Walla, North Yakima, Montana and Colorado Points, Chicago, St. Paul, Kansas City and St. Louis.

Through night trains daily, with sleeping car, each way between

Central Oregon and Portland

via S. P. & S. and Oregon Trunk Ry.

Time schedules, folders, Eastern and Coast excursion rate information, etc., on request to

R. A. Crozier, A.G.P.A.
Railway Exchange
Portland, Oregon



E. A. Gibert, Agent
White Salmon
Washington

W. C. Wilkes, General Freight and Passenger Agent
Portland, Oregon

BETTER FRUIT

HOOD RIVER, OREGON

OFFICIAL ORGAN OF

THE NORTHWEST FRUIT GROWERS' ASSOCIATION

A MONTHLY ILLUSTRATED MAGAZINE

PUBLISHED IN THE INTEREST OF MODERN

FRUIT GROWING AND MARKETING

ALL COMMUNICATIONS SHOULD BE ADDRESSED AND
REMITTANCES MADE PAYABLE TO

Better Fruit Publishing Company

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SUBSCRIPTION PRICE:

In the United States, \$1.00 per year in advance
Canada and foreign, including postage, \$1.50

ADVERTISING RATES ON APPLICATION

Entered as second-class matter December 27,
1906, at the Postoffice at Hood River, Oregon,
under Act of Congress of March 3, 1879.

Eastern Dealers Visit the Northwest. That Eastern dealers are interested in box apples from the Northwest has been evidenced in past years and is also evidenced this year by the number of visitors who have already toured the Northwest. The demand for Northwestern box apples is also evidenced by the increased quantity that has been produced and consumed. Ten years ago only a few carloads were shipped from the Northwest, whereas last year the total shipments in carloads from Oregon, Washington, Idaho, Montana, Utah, Colorado and California equalled about 20,000 cars.

Mr. O. E. Spooner of Boston, Massachusetts, was one of the early visitors to the Northwest, having made a tour through the Isle of Pines, Southern California and the Northwestern States. Mr. Spooner is one of the active fruit dealers of Boston and is entitled to great credit for the service he has rendered the fruit industry by being a factor in bringing about arrangements with the railroads so that cars could be run on the dock and the fruit for export be loaded directly from the car into the big freight steamers.

Mr. Crossley, of D. Crossley & Sons, was one who again made his annual visit to the Northwest in behalf of his own concern. Mr. Crossley is one of the large dealers in apples, exporting large quantities annually. This firm maintains an office in New York and a store in Liverpool. Mr. Crossley is one of the welcome visitors.

Mr. M. C. Wilmeroth, formerly a fruit dealer in Chicago, this year is making a tour throughout the Northwest and is representing a number of substantial concerns.

Mr. Robert P. Loomis, of the firm of E. P. Loomis & Son, is again an annual visitor to the Northwest. Mr. Loomis is a great believer in Northwestern apples and annually has handled large quantities very successfully. The house of E. P. Loomis & Son was founded by the father about fifty years ago, and is now conducted by the two sons, E. N. and R. P. Mr. E. N. Loomis was president of the International Apple Shippers' Association during the past year. Mr. R. P. Loomis owns one of the most magnificent orchards, consisting of eighty acres, in the Hood River Valley.

Mr. George Rae, of Rae & Hatfield, New York, who annually handles large quantities of Northwestern apples, again made his visit to the Northwest looking over the field with a view to making arrangements for the coming season.

Mr. Allen, of the Department of Horticulture of Australia, visited Hood River, and is making a tour of the United States investigating growing and marketing conditions.

Mr. W. S. Ballard, Bureau of Plant Industry, Department of Agriculture, Washington, has been making a tour of the Northwest looking into the situation in behalf of the government. Mr. Ballard toured through Yakima, Hood River and Willamette Valleys and created a very favorable impression wherever he went, it being the universal opinion, as expressed by the growers, that "Mr. Ballard knows his business and is a man of excellent ability and fine judgment." One grower stated that "Mr. Ballard doesn't talk much, but whenever he does he says something."

Mr. B. B. Pratt, who last year conducted a series of experiments with apples from different districts of the Northwest in cold storage, has been visiting different sections throughout the Northwest explaining the results of these experiments. Two points are very important; one is that immature fruit does not keep so well as matured fruit and the other is the delay in placing fruit in cold storage shortens its keep. Mr. Pratt was accompanied by Mr. Ramsey and Mr. McKay, the latter having charge of the cold storage experiments during the coming season.

Professor C. I. Lewis, horticulturist of the Experiment Station at Corvallis, has been making a tour through the state and stopped off at Hood River for a few days. Professor Lewis has done wonderful work in establishing the horticultural department of the station on a business basis and now has sixteen men associated with him in this department. Professor Lewis is one of the scientific men who talks sense in a practical way, and consequently always commands the interest of his listeners whenever he addresses a bunch of fruitgrowers.

Professor H. S. Jackson, of the Department of Plant Pathology, has been

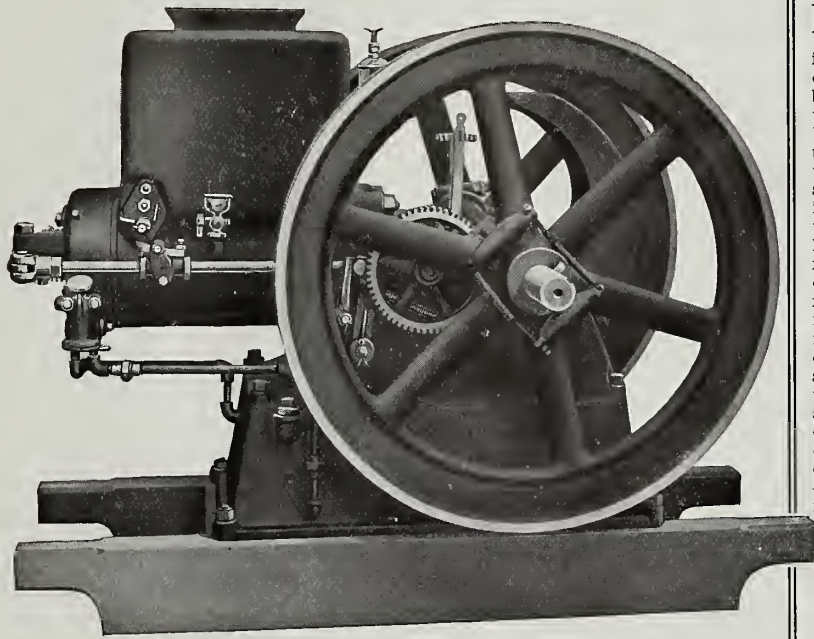
making a number of trips during vacation to the different fruit sections, where they are having troubles of their own, giving the growers advice about combating the different diseases. Professor Jackson has given the growers some excellent advice in controlling pear blight. He is universally conceded to be a conservative man, of good judgment and splendid knowledge in his department.

Dr. Fredrickson, of the German Kali Works, has been visiting some of the different fruit sections of the Northwest and is a very interesting man to listen to, as he has lived in many different countries and is thoroughly familiar with the uses of all fertilizers in the orchard business.

Mr. Gould, of the Department of Pomology, Washington, D. C., is making a general investigation of orchard conditions throughout the Northwest. It is a pleasure to talk to a man like Mr. Gould, who knows his business, and it is hoped he will again visit us in the near future.

It is quite evident that the Northwest, as a fruit country, is commanding the attention of the department of horticulture of the government, as indicated by the fact that already half a dozen men connected with the department have visited the Northwest. Early in the spring Mr. A. V. Steubenrauch, chief executive in the Department of Horticulture, accompanied by Mr. Pratt, made a tour of the Northwest. Mr. Steubenrauch has proved himself wonderfully efficient as an executive at the head of the entire department. Mr. Steubenrauch succeeds Mr. G. Harold Powell, who is now manager of the Citrus Fruit Growers' Exchange of Los Angeles, California. We think we are justified in saying that no man could be selected as chief executive of the department of horticulture for the government who could render more efficient service or be more favorably received by the fruitgrowers.

The International Apple Shippers' Association, composed of the largest apple dealers in the United States, met at Cleveland, Ohio, August 6, 7 and 8. The membership is over 500. About 1,200 people were in attendance, showing the wonderful interest that is being taken in the apple industry. This association has done some splendid work in securing proper legislation for barreled apples and has appointed a committee to confer with representatives from the Northwest for standardizing the size of the box and establishing proper grades for box apples. The members of the International Apple Shippers' Association are anxious to increase the consumption of apples to keep pace with production. The report of the advertising committee, of which Mr. U. Grant Border is chairman, was received with splendid applause and approved. His plan calls for a campaign fund for advertising to be raised by having stamps purchased to be placed on boxed and barreled apples; each box is to be stamped with a one-cent stamp and each barrel with



3,000 Stover Gasoline Engines Could Not have been sold in the Northwest

if the Stover Engine had not been a crackerjack of an engine. A few could have been sold through advertising, but the thing that sold more than 3,000 Stover Engines throughout the Northwest is the goodness of the engine. Users of Stover Gasoline Engines do not hesitate to say that the Stover is the best engine on the market. It is this opinion in the minds of the owners that boosts the sale of this engine. Stover Engines have been tested out in every service and have been found wanting in none of them. They have strength sufficient to withstand the hardest knocks of timber service, the accuracy of adjustment demanded in an engine for electric generating, the ease of operation that adapts it particularly to the intermittent service of the farm or pumping. They meet every requirement—are simple and understandable. A single rod operates all important parts. Stover Engines are not of the hair spring type that are thrown out of adjustment at the slightest opportunity; they are of the sturdy, stick-to-it type that you can operate as well and as economically as an expert, and in case of an accident you can in most cases make repairs yourself, same as you would to any other piece of machinery about the place. We carry a complete stock of Stover Engines—sizes 1 to 60 horsepower—and also a complete stock of repair parts. Write us, if interested, for our catalog and circular containing letters from users in all parts of the Northwest.

Pumps
Water
Systems



Implement
Vehicles

Portland

Spokane

Boise

a two-cent stamp and the money raised to be spent for the purpose of increasing consumption. Certainly a big step in the right direction. The next meeting will be held in Boston. Mr. R. H. Pennington was elected president, Mr. R. G. Phillips secretary and W. M. French treasurer. Vice-presidents were elected for each state. Mr. E. H. Shepard, being elected vice-president for the State of Oregon, for which honor the editor desires to thank each and every member of the association.

Pears.—A large part of this edition is devoted to pears. A number of very instructive articles are published in reference to the growing, culture, marketing, pre-cooling and diseases of pears. Pear growing has been very successful in the Northwest and pear orchards are paying a splendid profit. Sections that are especially adapted to pear growing, as to climate and soil condition, are comparatively limited. In many sections the pear blight has been severe, largely reducing the acreage in many states, particularly states in which the climate is very warm during the summer months. However, the pear industry of the Northwest has not been seriously affected with this trouble up to the present time, and we hope and believe with the present methods of control, and the possibility of eradication, that pear blight will never be a severe menace to the Northwest. It is with regret we are com-

pelled to announce that the size of this edition was not sufficient to include all the articles on pears that we had hoped to be able to publish, therefore we desire to say that the future editions will contain articles about pears which will be of value and interesting to all fruit-growers.

Western Visitors at the International Apple Shippers' Association.—Among the visitors from the Northwest were Mr. H. F. Davidson, Hood River, president of the North Pacific Fruit Distributors; Mr. Wilmer Sieg, salesman of the North Pacific Fruit Distributors and of the Apple Growers' Association of Hood River; Mr. J. H. Robbins, Spokane, general manager of the North Pacific Fruit Distributors; Mr. B. A. Perham, Spokane, sales manager of the North Pacific Fruit Distributors; Mr. J. C. Skinner, salesman for the Northwestern Fruit Exchange, Portland; Mr. L. E. Meacham, advertising manager of the Northwestern Fruit Exchange, Portland. The visitors from the Northwest whom we have met advise us that the meeting was not only a splendid success in every respect, but a very enthusiastic meeting. The Northwestern delegates were favorably and courteously received and we are advised that this convention took much interest in the fruit industry of the Northwest.

Mendocino County, California, will hold the Third Apple Annual at Mendocino, November 18 to 23, inclusive.

Apple Estimates of 1913.—It is a conceded fact that the apple crop of 1913 will be considerably less than 1912—how much is the question. The government reports 51 per cent of the ten-year average. This would mean over 50 per cent of last year's average—just how much is difficult to tell. The Northwestern crop, in our opinion, has been considerably overestimated. From individual opinions and personal correspondence it is quite probable that this year's crop will be somewhere from 60 to 75 per cent of last year's

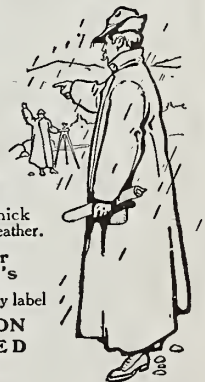
You're really dry in a Fish Brand Reflex Slicker

Not a dressy "near" water-proof, but a roomy, comfort-giving service coat that will protect you through thick and thin in the wettest weather.

\$3.00 at your dealer's

We print plainly on every label
**SATISFACTION
GUARANTEED**
and we mean it

TOWER'S Identified always by this mark
FISH BRAND Catalog free



613
A. J. Tower Co.
BOSTON
Tower Canadian Limited, Toronto

Take A Peep Into A Majestic Oven

Before you decide on any range go to the nearest *Majestic* dealer—there's one in nearly every county in 40 states—and let him show you the perfect *Majestic* oven.

Because the *Majestic* is put together with *rivets* so that all joints and seams remain absolutely air-tight always—because the body is lined with guaranteed *pure asbestos board*, covered with an iron grate—you can see it—you are sure of an even, *dependable* baking heat with *half* the fuel required in ordinary ranges.

This is only one of the many reasons why you will select a

Great Majestic Malleable and Charcoal Iron Range

A Perfect Baker—Fuel Saver

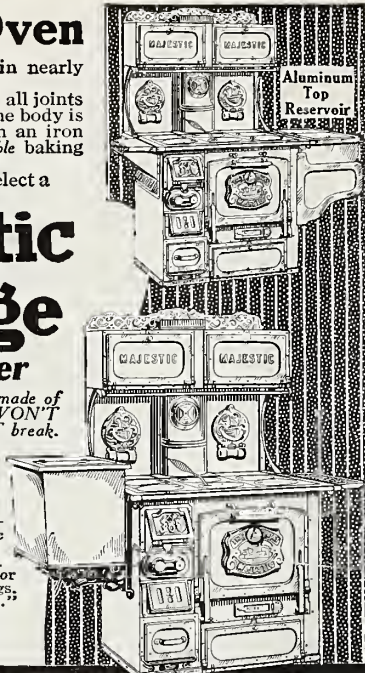
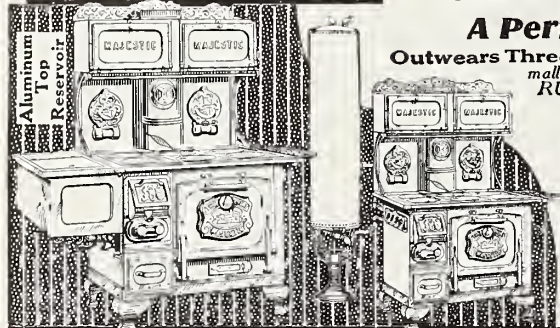
Outwears Three Ordinary Ranges—ONLY range made of malleable iron and charcoal iron. Charcoal iron WON'T RUST LIKE STEEL—malleable iron CAN'T break.

All Copper Reservoir

Its 15-gallon reservoir is *all copper* and heats through copper pocket, pressed from one piece, setting against fire box. Turn lever and it is instantly moved away from the fire.

Greatest improvement ever put in a range—increasing strength and wear of a Majestic 300 per cent at a point where other ranges are weakest—many other exclusive features. Any Majestic dealer can furnish any size or style Majestic Range with or without legs. Write today for booklet, "Range Comparison."

Majestic Manufacturing Co.
Dept. 121 St. Louis, Mo.



The Range With a Reputation — It Should Be In Your Kitchen

MANNING UNIVERSAL KEROSENE GAS LAMP

300-candle power light 50 hours from one gallon of kerosene; no wick; no odor; no sub-flame.

Kerosene lamps are what you want. No one is afraid of kerosene. Money back if you are not satisfied.

Price with white shade \$8.00 each. With fancy art dome shade \$10.00. Extra mantles \$1.00 per dozen.



H. W. MANNING LIGHTING & SUPPLY CO.
63½ Sixth Street, Portland, Oregon

A PANORAMIC VIEW

of the
Famous Hood River Valley
showing
13,000 acres of apple orchards, Mt. Hood, Mt. Adams and the Columbia River Gorge.
40 inches long Price \$1.00

SLOCUM'S BOOK AND ART STORE
Hood River, Oregon

Ship Your Goods in Transit
TO

NORTHWEST STORAGE CO.

324 Division Street
SPOKANE, WASHINGTON

Suitable space for handling
Apples — Potatoes

Farm Machinery and General Storage

crop. Last year Hood River shipped about 720,000 boxes. In the early part of the season the estimate was much higher than it is at the present time. A great many growers estimated the crop at 600,000 boxes. It seems to be the general opinion now that the crop will not exceed 500,000 boxes, or about 70 per cent of last year's crop for a maximum. Some districts will show a smaller percentage than this, going as low as 33½ per cent, while some are claiming over 70 per cent of last year's crop. The general crop of the United States is variously estimated by different estimators at from 50 to 75 per cent of last year's crop. Probably a good fool guess at the present time would be 60 per cent of last year's crop.

It seems advisable to suggest to the fruitgrowers that it is not always good policy to have all of your eggs in one basket. Many fruitgrowers have more land to set to fruit trees. Pears, prunes and cherries in the Northwest have generally proved very profitable. The apple crop may be light one year, or very large and prices low. Would it not be well for the orchardist to equalize his work and balance his income by setting a reasonable quantity of pears, prunes and cherries and other fruits, including some small fruits, instead of planting the entire tract to apples. We present this thought for consideration of all those orchardists who have not their entire place already set out.

Wenatchee fruitgrowers will hold their first annual Apple Show and Industrial Exposition in Wenatchee October 21 to November 5. The Wenatchee fruitgrowers do things in a business-like way and have formed a company

for this purpose, which is known as the Hesperides Exposition Company. Every fruitgrower in Wenatchee district, along the Great Northern Railway and up and down the Columbia River, should not only attend this fair, but should also make the most attractive exhibit possible. It is this kind of publicity that helps the fruit industry, and perhaps more important than this is its educational value. The fair will be a success and the attendance should be immense.

Bartlett Pears.—According to reports from the Northwestern Fruit Exchange Bartlett pears, up to August 15, were bringing excellent prices, the average price to date being \$1.85 per box, while in previous years the price was reported at \$1.53.

Fruit Farm for Sale

Eighty acres in the famous Bitter Root Valley. Twenty-eight acres planted to standard varieties of apples five years ago. Ready to bear next year. Water rights perfect. Orchard has been handled scientifically from the beginning and has received clean cultivation every season. Land not planted lies right for cherries or apples. Location is splendid, being four miles from county seat and one mile from shipping station. View from the land embraces a long stretch of river and thirty miles of mountains. No better opportunity could be offered to any one who knows the orchard business and who can appreciate the advantages of an ideal location.

Address for further particulars.

Rodenbaugh & Morris
Advertising Building CHICAGO

The Fair Hesperides of North Central Washington is taking a progressive step in the apple show business by not limiting the show to the apple alone. This show will contain fine exhibits of grains, vegetables, dairy produce, lumber and manufactured displays. In addition to this a splendid program of music and entertainment will also be given, which will make the show attractive to every one, whether he is a fruitgrower, farmer, business man or casual visitor. The management is under Mr. D. D. Olds, who is well known among the fruitgrowers for his business ability, and his name as manager bespeaks success in advance.

The North Pacific Fruit Distributors, the largest shipping organization in the Northwest, controls the output of over eighty associations in Oregon, Idaho, Washington and Montana. Visitors from the Distributors report that they were met with a warm reception at the International Apple Shippers' convention, and that the outlook for this year's business is very encouraging. The dealers have confidence in the grade and pack of the North Pacific Fruit Distributors and their system of inspection, which will be uniform throughout all sections. The North Pacific Fruit Distributors certainly have made a great step in the right direction by having succeeded in winning in advance the confidence of the dealers for the output of the coming season.

The Indiana Apple Show.—The Indiana Apple Show of Indianapolis have already issued announcement cards of their third apple show to be held in that city November 5 to 11. In past years this apple show has been a splendid success and of great value in exploiting the industry and giving publicity to the apple.

WANTED!

for Oriental Trade
early shipment

6,000 Boxes

Orchard Run Pack
4 and 4½ tiers

BEN DAVIS

WRITE

Page & Son

PORTLAND, OREGON

Growers who have large lots of apples
to dispose of will do well to write us

Three Big Savings

Which Men Get

In No-Rim-Cut Tires Alone

Here are three features—costly features—found in no other tire. Features that save motorists millions of dollars.

You get all these things at no added price in No-Rim-Cut Tires. That's why they out sell any other tire made.

Saving No. 1

These tires make rim-cutting impossible. They do it by a feature which we control, and which can't be successfully imitated.

With old-type tires—with clincher tires—rim-cutting ruins almost one tire in three. That is proved by careful statistics.

Saving No. 2

We add to our tire cost \$1.500 per day to give the "On-Air-Cure" to No-Rim-Cut tires. We final-cure them on air bags shaped like inner tubes—under actual road conditions.

We do this to save the blow-outs caused by wrinkled fabrics. No other maker does this, because it costs too much.

Saving No. 3

We use a costly patent method to prevent tread separation. Loose

treads have cost motorists millions of dollars.

We have exclusive use of this vital protection, and no other maker employs it.

No Extra Price

Because of these extras, No-Rim-Cut tires used to cost one-fifth more than other standard tires. Yet they saved so much that hundreds of thousands paid the price to get them. They became the world's favorite tires.

Now our mammoth output has brought the cost down. Today you can buy them just as low as any standard tire.

Tires with these features cost no more than tires which lack them. Why not get these savings?

Our dealers are everywhere.

GOOD YEAR

AKRON, OHIO

No-Rim-Cut Tires

With or Without Non-Skid Treads

THE GOODYEAR TIRE & RUBBER CO., Akron, Ohio

Branches and Agencies in 103 Principal Cities—More Service Stations Than Any Other Tire

We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits

Main Canadian Office, Toronto, Ontario—Canadian Factory, Bowmanville, Ontario

(130)

The Northwestern Fruit Exchange reports the sale of fifteen cars of Jonathans to Johannesburg, South Africa, and also states in connection with this shipment that the price will be almost three times the average prices usually received by shippers last season. They also report an order for seven cars for South America, of which three cars will be Jonathans from Rogue River Valley, the remainder Rome Beauty from Wenatchee and Yakima.

The Fourth California Apple Show will be held in Watsonville, October 6 to 11. Californians are certainly strong on exhibit publicity work. This show has increased rapidly from year to year in its exhibits, attractiveness and also attendance. Californians are taking greater interest in the show this year than ever before. All California should attend, and fruitgrowers from other states will find this show well worth a visit.

Caterpillar Cultivation Saves the Moisture

The 30 H. P. Holt Baby Caterpillar Tractor is built to meet all the demands of the orchardist.

- It will turn in its own length.
- It can be guided as easily as an automobile.
- It will not pack the soil because its weight is distributed over a large bearing surface.

The HOLT CATERPILLAR

Reg. U.S. Pat. Off.

- Is very light in weight
- It has the pulling power of 16 good horses.
- It is small and built close to the ground—without the canopy it is only 58 inches high. It cannot injure the trees.

—It burns all the cheaper grades of distillate. Distillate costs less than kerosene.

Fill out coupon and send for our catalogue B. F. today.

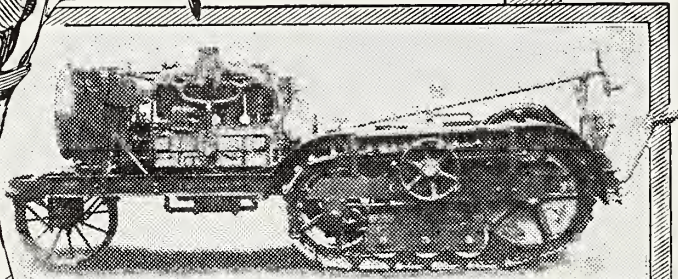
Name

Address

City or Town

The Holt
Manufacturing Company

J. W. HILL, Agent
617 Lumbermens Building
Portland, Oregon



For the Boys and Girls.—The Oregon State Fair has requested us to make announcement that they are offering some splendid premiums for exhibits made by the boys and girls, either produced or grown on the farm or in the garden; for sewing, poultry or livestock. We desire to say in addition that many other states and local fairs are doing the same thing. We suggest to all boys and girls that they look over the August edition of "Better Fruit," which contains a list of every fair of importance so far as we have been advised, and by writing the secretary a premium list can be obtained. We strongly urge you to prepare something for exhibit. You may win a prize, but whether you do or not it will be valuable experience for you and very educational. One of the attractive prizes of the Oregon State Fair is a Shetland pony.

Horticultural Union Makes Returns

The Horticultural Union of North Yakima, Washington, just made the following returns to its members. This is the last of the series of pools that this association has made of its apples. The prices below given are net to the union. The grower receives ten cents less per box. The prices were: Wine-saps, extra fancy 4, \$1.21; extra fancy 4½, \$1.06; fancy 4, 91c; fancy 4½, 80c; fancy 5, 46c; "C" 4-4½, 57c; "C" 5, 44c. Ben Davis, extra fancy 4, 81c; extra fancy 4½, 55c; fancy 4, 45c; fancy 4½, 41c; fancy 5, 40c; "C" 4-4½, 43c; "C" 5, 40c.

37,815,000

37 Million, 815 Thousand Pounds of Walnuts

Won't you just read and ponder these figures again—they represent the enormous importations of WALNUTS into the United States from foreign countries for the year 1910—and the demand for good walnuts in this country is steadily increasing.

There are no sections in the United States more favorable for walnut growing than is embraced in Western Washington, Oregon and California.

If you are not familiar with the best and most reliable variety of WALNUTS—the Vrooman Pure Strain Franquette—drop us a line and we will send you samples of what you will say is the best walnut you ever ate.

The Vrooman Franquette is also a splendid tree to plant for shade purposes. In selecting your trees this year, why not get some Vrooman Pure Strain Franquettes.

Our trees are all grown without irrigation and are guaranteed first-class.

For information, prices, etc., on trees of any kind, address

Oregon Nursery Company

ORENCO, OREGON

Positions Open for A Few Salesmen

NEW ORLEANS

GEO. H. APPEL

IMPORTERS
JOBBER

Wholesale
Commission

LAUX & APPEL

All Fruits in Season

Storage for 50 Cars

NEW ORLEANS'
FANCY FRUIT HOUSE
The House of Quality

GOOD THINGS TO EAT
EVERYTHING
FROM EVERYWHERE

Two Saving Carriage Tires

By test the most durable, at the same time the *easiest riding* rubber tires made. Because of quality, these two tires are found on more carriages than any other make. If you want tires that are unquestionably the most *serviceable*—tires that will make your carriage ride easy and safeguard your vehicle against jolts, jars, vibrations, insist on

GOOD YEAR Rubber Tires

AKRON, OHIO

Last Longest! Lengthen Life of Vehicle!

"Eccentric" Cushion Tire

A light vehicle or runabout tire that gives exceptional service because of the depth of the retaining wire in the rubber. The retaining wire is buried *below* the center—to a depth that insures 50 per cent more wear, at the same time holding the tire firm in the channel. Not only means more tire service, but greater resiliency—the *easy-riding* qualities for which Goodyear Eccentric Cushion Tires are noted. These tires are

made of high-grade, very tough, yet resilient rubber. They are practically trouble-proof, neither cracking, loosening nor splitting, as do common tires.

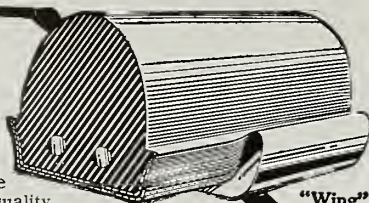
Our "Wing" Tire

This tire is characterized by a patented "Wing" feature that keeps dirt and grit out of the channel. Damage is thus prevented.

Because of this feature, Wing Tires give about *twice* ordinary tire service. They stay on—wear longer—are amply resilient because of quality of rubber—afford carriage owners with the best tire service that money can buy. Don't accept tires *almost* as good. Insist on Goodyears! Send today for our latest book on Carriage Tires.

The Goodyear Tire & Rubber Co., Akron, Ohio

Branches and Agencies in 103 Principal Cities



"Wing" Tire



"Eccentric" Cushion Tire



THE "STAR" ORCHARD LADDER

Strongest and lightest ladder on the market. Can always be kept in perfect condition by simply tightening the bolt that is under each step. **DOUBLY BRACED WHERE HARDEST STRAIN COMES.** Send for catalogue.

ACME ROLLING PARTITIONS

Write for Partition Catalogue E on rolling partitions for schools, churches, homes, etc. Any child can operate the ACME Partition.

FREE a valuable book on orchard tree pruning to any orchardist who is a member of a fruit growers' association. To others for 4c—cost of mailing.

Union Blind and Ladder Co.

3535 Peralta St., Oakland, California

Does Wood of the Box Affect the Flavor of Apples

By B. B. Pratt, U. S. Department of Agriculture, Bureau of Plant Industry

AS you know, our office made tests on different varieties of woods used in apple-box manufacture to test any possible influence these woods might have on the flavor of the apples stored therein in cold storage for a long period. These tests having been made at your request and with your hearty co-operation, I take pleasure in reporting herein the results of the experiments. The following varieties of apples were used in these tests. From Hood River, Oregon, Spitzenberg and Yellow Newtown; from North Yakima, Washington, Rome Beauty and Ben Davis; from Wenatchee, Washington, Jonathan and Winesap.

At Hood River and North Yakima the three woods, Western yellow pine, Sitka spruce and Western hemlock were used with each variety of apple, while at Wenatchee only the first two

woods were tested. All of this fruit was packed and shipped to storage by express as early as possible after picking and was stored with the Terminal Ice and Cold Storage Co. of Portland, Oregon, in their regular commercial storage rooms, where a reasonably uniform temperature of 32 degrees Fahrenheit was maintained. These rooms contained a variety of boxes, only a portion being pine.

Inspections were made on all varieties stored in these woods except the Jonathans, at intervals of approximately six weeks, beginning the first of January, 1913, and ending the middle of May. During this period four withdrawals from the storage rooms were made from each lot, using duplicate samples in each case. A record was made the day of withdrawal from cold storage. The fruit was then held in an

ordinary warehouse at a temperature of approximately 60 degrees Fahrenheit for ten days, when another record was made. The inspections of the Jonathans were made in the same way, but began the last week of February, 1912, and ended the first week of April, 1913.

At no time during the course of these inspections was a distinct flavor detected in any of the varieties that could be definitely attributed to the wood in which the fruit was stored. This was particularly true with regard to the fruit stored in the spruce and hemlock. At the very last inspections there may have been a faint flavor in some of the varieties imparted by the pine wood. This, however, is open to doubt, and at any rate there was no flavor that the ordinary consumer or one not looking for such a flavor would detect.

It has been reported to me by a commercial warehouseman in the Northwest, who has had considerable experience in storing fruit that an odor or flavor will be imparted to the fruit when it has been held in a room filled with apples all stored in pine boxes for a long period, but where only a portion of the fruit is stored in Western yellow pine, as was the case in our experiments, there is little to fear from this cause.

It seems possible that this might be true, but such observations are usually not carefully made and are always open to question. From what tests we have made it seems doubtful whether there is much to fear in storing apples in Western yellow pine, and while there is a possible chance for contamination of the flavor under the condition suggested above, it would seem that this need give little concern under usual commercial methods. We will keep the point in mind and make observations whenever possible on fruit that has been stored with the exclusive use

Growers who have Apples and Pears to Market

Straight Car-Load Lots and prefer to sell outright for cash at time of loading write to

Page & Son

PORTLAND, OREGON

Pioneer Fruit and Produce Dealers in Northwest

Founded 1839

Capital, \$150,000.00, paid in

Incorporated 1904

JOHN NIX & COMPANY

281 Washington Street, NEW YORK CITY

Pacific Coast Fruits and Vegetables

Our New York Store Centrally Located. One block from Erie R. R. Fruit Depot

"BLUE RIBBON"
(EXTRA FANCY)

"RED RIBBON"
(STANDARD)

FAMOUS BRANDS

— OF —

YAKIMA APPLES

Elberta Peaches are Now Moving

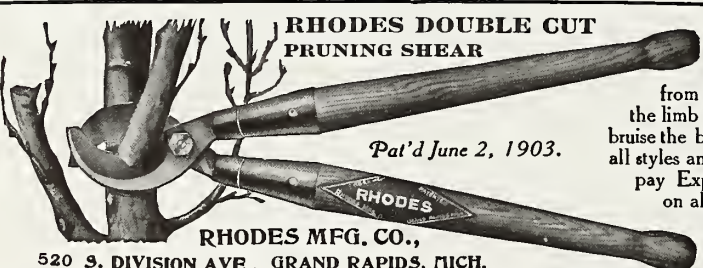
*Grimes Golden and Jonathan Apples will
Move this Month*

Get in touch with us by wire or letter

Yakima County Horticultural Union

E. E. SAMSON, Manager

NORTH YAKIMA, WASHINGTON



RHODES DOUBLE CUT PRUNING SHEAR

Pat'd June 2, 1903.

RHODES MFG. CO.,
520 S. DIVISION AVE., GRAND RAPIDS, MICH.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

Associations and Individual Car-Lot Shippers of Fruits

Should market their products through

C. H. Weaver & Co.

65-67 West South Water Street

Established in 1863

CHICAGO, ILLINOIS

of pine wood for boxes and will be glad to advise you in case we learn anything further that will throw light on the matter.

Error in August Edition.

On page 14 of the August edition of "Better Fruit" it is stated in an article that the membership of the Produce Reporter costs \$100. This company has a service to individual growers at sixty dollars per year.

Government Answers Critics

The Department of Agriculture has received notice by telegraph from citizens in the State of Washington that certain people are spreading the idea that the pear blight is not a bacterial disease, and that the department's recommendation that pear blight can be dealt with by cutting out the diseased portions of trees is not an effective measure. In the fear that these unscientific opinions may stop orchardists from following the highly successful practical measures recommended by the federal specialists, and thus lose their own orchards and spread the disease among neighboring orchards, the department has issued the following special statement: "That pear blight is a bacterial disease of the pear tree is not open to question. The scientists have clearly established the existence of these bacteria by means of microscopic examination, and have reproduced the disease by inoculating fruit and trees with them. The germ is the *Bacillus amylovorus*. It is an oval-shaped body and is 1/18000 of an inch long and 1/25000 of an inch across, and can be clearly seen with a high-power microscope. Moreover, the scientists have raised these bacteria in their laboratories and have used them a large number of times in experiments to infect healthy trees and fruit. Wherever this bacillus has been introduced into a healthy tree or fruit the pear blight has followed. The scientists also have proved that the pear blight can be communicated from the blossoms of an affected tree to healthy trees by bees and other insects, and that the blight that is held over through the winter can be communicated to healthy portions of the same tree or to other trees by flies or other insects.

LILLY'S

BEST GRADE
Grass and Clover Seeds
 99% Pure
 For Fall Sowing

The Chas. H. Lilly Co., Seattle

Patented
 June 26
 1906



IDEAL FRUIT PICKING BAG

Made of heavy weight duck and so arranged as to equalize the load on both shoulders.

The openings are arranged so both hands can be used in picking, and the drawstring is arranged so the fruit can be let out at the bottom in emptying the bag.

The bag can be let down to the bottom of the box before opening the drawstring, thus not bruising the fruit.

This is the best and handiest arrangement for picking fruit that has ever been offered. A trial will convince even the most skeptical.

SAMPLE, POSTPAID, \$1.00

Agents Wanted

Barker Manufacturing Co.

35 Ambrose St. ROCHESTER, N. Y.

Hamilton Made Spraying Hose

will spray your trees without trouble or expense for several years for one cost. One trial sufficient to convince.

PERFECT SPRAYING HOSE

Every length will stand 600 pounds and guaranteed for 300 pounds.

½-inch, per foot.....15¢
 ¾-inch, per foot.....14¢

VULCAN SPRAYING HOSE

Stands 350 pounds. Guaranteed for 100 pounds working pressure.

½-inch, per foot.....12¢
 ¾-inch, per foot.....11¢

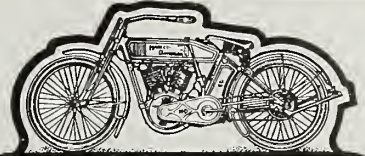
All coupled complete, 50-foot lengths, freight prepaid. Order from your dealer or shipped direct from factory, cash with order.

HAMILTON RUBBER MANUFACTURING COMPANY
 TRENTON, NEW JERSEY

Pear blight differs radically from the peach yellows in the way it affects a tree. The peach yellows does not show itself outwardly in a tree until the entire tree is affected and cannot be saved. The pear blight, on the other hand, has a purely local effect and attacks certain blossoms, twigs, branches or a section of the bark and leaves the rest of the tree uninjured except where girdling has occurred.

"In thousands of orchards, and in the case of hundreds of thousands of pear trees, especially in California and Oregon, particularly in the Medford district, it has been proven that by cutting out the portion of the tree affected by the pear blight and washing the cut with a solution of one part of corrosive sublimate (a highly poisonous substance) to 1,000 parts of water, orchardists can save most of the individual trees and prevent the spread of the disease throughout their orchards. It therefore strongly urges orchardists in districts affected by pear blight to continue to cut out affected portions of the trees and wash the cuts with this mixture. In cutting they should wash their tools in this disinfectant so that the tool itself cannot communicate the bacteria to healthy parts of the trees. Especially orchardists are strongly advised to go over their orchards very carefully in the fall and cut out all cases of hold-over blight, in order to prevent the spread of infections in diseased trees or the communication of infection to other trees in the blossoming period.

"In addition to the cutting out and disinfecting process, the department advises orchardists to take steps to keep their trees healthy and strong, but not over-vigorous, so as to be highly resistant to pear blight. It warns orchardists to be careful in the use of manures and fertilizers around fruit trees, as anything which increases the



4000 Used by the United States Government

OVER 4000 Harley-Davidsons are employed in the Government Service. The

HARLEY-DAVIDSON

holds the world's economy and endurance records. It is the only motorcycle built with the Full-Floting Seat and Free-Wheel Control, the two greatest comfort features known to motorcycling.

Write for illustrated catalog.

HARLEY-DAVIDSON MOTOR CO.
 838 A Street Milwaukee, Wis.

W. van Diem

Lange Franken Straat 45, 47, 49, 51, 61
ROTTERDAM, HOLLAND

European Receivers of American Fruits

Eldest and First-Class
 House in this Branch

Cable Address: W. Vandiem
 A B C Code used; 5th Edition

Our Specialties are

Apples, Pears, Navel Oranges

rate of growth of the tree hastens the spread of the localized infection. The department has thoroughly tested all known or suggested measures for coping with this blight. It has found the cutting out and washing with the solution the one reliable and practical measure, and recommends it as a fully tested and successful remedy. This cutting-out method will not save all trees, nor is it effective with certain varieties of pear trees which are particularly subject to the ravages of the pear blight. It has, however, saved the pear industry of California and portions of Oregon."

"BETTER THAN EVER"

WILL BE

OREGON STATE FAIR

September 29 to October 4, 1913

at (Fair Grounds) Salem, Oregon

THE



WILL MAKE SPECIAL

LOW ROUND TRIP FARES

from all points Main Line and Branches

Tickets on sale September 25 to October 4, with final return limit October 8

Livestock, Agricultural, Horticultural, Poultry and Textile Exhibits
 Big Racing Events every day and Special Features

Further information relative to fares, train service, exhibits, etc.
 from any S. P. Agent or

JOHN M. SCOTT, General Passenger Agent, Portland, Oregon

Associations and Individual Shippers MAKE YOUR "COIN" THROUGH COYNE BROS.

You devote your time and energy necessary for the production of the "finest apples in the land" and naturally want to get the greatest possible compensation. We have the coin, storage facilities and innumerable ways of distribution which will result in Coyne's "coin" for you. Therefore, let's get together. "Apples are the Mint" when disposed of by or through an A1 distributor. WE DOFF OUR HATS TO NO INDIVIDUAL OR FIRM. We can back up this statement with hundreds of references.

Don't delay writing at once. We will have our representative call and see you.

COYNE BROS., 118 West South Water Street

"Health's best way—
Eat apples every day."

FINANCIAL CONNECTIONS { Fort Dearborn National Bank
Old Colony Trust and Savings Bank }
National Produce Bank

CHICAGO

Apple Market of Asia

Our readers will be interested in reading the report made by Mr. Henry D. Baker, United States consul at Colombo, Ceylon. The report was as follows: "A leading apple merchant of the State of Washington, now in Colombo, states in an interview in the Ceylonese of that city the intention of his firm to establish agencies in Colombo, Singapore, Calcutta and Hongkong for the sale of Washington apples. Shipments will be made from Washington during November, December and January, when no Australian apples are on the Ceylon market. This announcement that American apples would be introduced to the Ceylon market called forth

an interesting letter from an old timer in Colombo, who informed the Ceylonese that such news would be most welcome to those who remembered that many years back the only apples ever brought to Ceylon were from the United States. They came in sailing vessels every six months, the apple barrels being contained in huge consignments of ice. The fruit was entirely fresh and far more tempting in appearance and in flavor than those now obtained in Ceylon. In this way Ceylon at that time got not only all the apples but the ice as well. Australian and Tasmanian apples at the end of April are selling on the Colombo market at about 25 to 40 cents per dozen. They are brought by mail steamers on

the run from Australia to England, and those from Fremantle, Western Australia, require only ten days in transit. Apples are admitted duty free in Ceylon." The apple merchant referred to in this report is Mr. H. M. Gilbert of North Yakima, who recently returned after making a tour of the world, advertising the Yakima apple. He is a well-known commission merchant and at the present no one can realize the amount of advertising he has done for the Northwest apple industry.

Fruit Crop of Europe

Great Britain and Ireland.—Apples promise a fair half crop, about evenly distributed between early and late varieties; if anything, the early sorts predominate. Pears are a practical failure. Early varieties of plums and Damsons almost and entire failure, but Egg and Victoria plums, which constitute the bulk of the plum crop, now promise to exceed earlier expectations and will make the plum crop fully 50 per cent of an average crop.

France suffered even worse than the United Kingdom, but more fruit is now coming forward than anticipated, but taken as a whole there will not be more than 25 per cent of an average. This for all varieties of fruits.

Germany.—Apples 50 per cent, pears 50 per cent, plums 100 per cent of an average crop; late Switchens plums, a bumper crop.

Bohemia. — Apples, medium crop; pears, half crop with exception of Calabash (Bosc), which promise a full crop; Switchens, medium crop.

Austria.—Apples, good crop.

Hungary.—Apples, good crop.

Switzerland.—Apples and pears, small crop.

Tyrol.—Apples and pears, good medium crop.

Italy.—Apples and pears, good medium crop.

Picking Receptacles

Growers should investigate the different picking receptacles that are offered by the various supply houses and manufacturers, because the right kind of receptacle is certainly a great matter of economy to the grower in the way of preventing bruising.

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Suggestions to Apple Growers of the Northwest

By Mr. George Wright

WE assume it is generally known that trees can exist upon a limited amount of plant food, but to grow, thrive and produce fruit of high quality an abundance of proper kind of food in available form is all important. This has been thoroughly learned in the citrus orchards of California and is no

less true in the apple orchards of the Northwest. By most growers the idea is still held that the chemical analysis of a soil gives an accurate idea as to the needs of a soil for fertilization, but scientists have long since shown that this idea is far from being true, and practical experience has further borne

this out. It is true that the total quantity of plant food in a soil can thus be determined, but no satisfactory method has yet been found which accurately differentiates between the total quantity of the several plant foods present, and the quantity of each actually available to plants. In this fact lies the explanation that very often a soil upon analysis may show a very large amount of plant food to be present, and still the use of one or more of the elements, potash, phosphates or nitrogen, may show a decided improvement in both the growth of trees and the quantity of their fruit. Should the analysis show that a soil contains an exceedingly small amount of any of the necessary plant foods, for instance potash, then it can be relied upon that the soil is in need of this particular plant food. If on the other hand, however, it is shown by the chemical analysis that there is present in the soil a large quantity of potash it does not follow that the soil will not be benefited by fertilizing with potash, for it very often happens that a large percentage of potash in the soil exists in an insoluble form and cannot therefore be assimilated by plants. The question whether and to what extent a soil requires nourishment can therefore not be answered by a chemist, for he is not in the position to determine the true availability of the plant-food materials.

It is certain that many growers have not been impressed with the full significance of the above statements, and it is still more certain that unless it is considered and due restitution made for the regular soil draught the profitable production of crops will gradually become increasingly difficult to attain. Soil cultivation and irrigation, necessary as they are, fail in their object if natural fertility of the land is exhausted and is not replenished by the use of commercial plant food. The increasing attention given to apples in Oregon and Washington renders the consideration of this question of much economic importance. The special function of the particular kinds of plant food and their inter-relation is worthy of careful attention to all interested in the question of soil conservation. While in a general sense all substances used for the building of

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plant tissue are of equal importance to the plant, in the entire absence of any one of these plants cannot develop at all. There are but three or four that nature does not furnish in abundance in the soil. These are potash, phosphoric acid, nitrogen and lime. In all considerations of this subject, the fundamental proposition is that all these materials must be present in sufficient quantities, either naturally or artificially, before satisfactory results can be obtained. All plant food must be in soluble form, either in water or through very dilute acids secreted by the plant rootlets, before it can be of the slightest service to the plant, and if materials are used which are not in this condition they must be changed by the natural agencies of air, water and soil bacteria, as to reach that soluble state, else they will remain entirely inert as plant food. This is a fact which must never be lost from sight in considering the relative merits of several materials offered as fertilizer ingredients.

Potash as a plant food seems to influence especially the development of the woody parts of the stems and pulp of fruits. The flavor and color of fruits is also accredited to potash. Phosphoric acid appears to have three well marked functions in plant economy: First, it aids in the nutrition of plants by furnishing the needed quantity of phosphoric acid for the plant tissues; second, it aids the plant to assimilate other plant foods, and when present in abundance it hastens the maturity of plants; third, it aids in rendering soluble the albuminoids of the plant, thus facilitating their transference from the growing parts to the seeds in which they accumulate. Nitrogen has for its function the development of the framework of the plant, supplementing the action of potash, the former developing the framework and the latter filling out the organism. The lack of nitrogen is invariably shown by a pale color of the foliage, which often becomes yel-

lowish, and by the general slow growth of the plants.

For an apple orchard an annual top dressing of 400 to 800 pounds to the acre of a fertilizer of about the following composition makes a favorable application: Nitrogen, two per cent; available phosphoric acid, eight per cent; potash, twelve per cent. It will be noted that in this formula quite a heavy proportion of potash is called for. This is necessary, not only as stated above, because the apple makes a heavy draught upon the side of potash, but also because this is the element which is weakest in most soils of the Northwest generally, and it is desirable not only to supply the needs of the tree but to build up this weak side of the soil. A fertilizer may also be made up from the following materials: 100 pounds nitrate of soda, 400 pounds super-phosphate or equivalent in organic, nitrogenous and phosphatic manure; 200 pounds muriate or sulphate of potash.

Excessive application of nitrate compounds should not be made in apple orchards because it favors rank growth of the tree at the expense of the fruit. By carrying out some such method as this the orchard will have been adequately manured and plant foods fully utilized and florescence will develop uniformly so that the trees may bear the maximum crop of the best quality of fruit. An idea seems to be quite current among growers in the Northwest that virgin forest lands, when brought under cultivation, are so rich in phosphoric acid and potash that an artificial application of these two plant foods will be unnecessary for many years, and yet it has often enough been proven that a dressing of a complete fertilizer is needed to produce a maximum crop in quantity as well as in quality. As an example it may be mentioned that on the east coast of Sumatra, known to the world for the high state of cultivation of its tobacco plantations, a crop cannot be produced even on virgin and first-class alluvial



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forest soil satisfactory in quality without the application of a complete fertilizer, containing five per cent nitrogen, five per cent phosphoric acid and ten per cent actual potash, although the forest timber, consisting of hardwoods, is burned and the ashes, very rich in potash, are turned under. Tobacco, to be of first quality, must be heavily fertilized with potash, and in this the apple tree is very similar, since one crop of apples also removes a very large quantity of potash from the soil. As a matter of fact such forest lands are usually quite abundantly supplied with humus and thus in good physical condition, but the mineral plant foods, potash and phosphoric acid, present another story. While it is true that such of these elements as may have been combined in organic forms by the former tree growth may the more readily change to available forms, yet the fundamental fact still remains that the elements thus made available are neither in the proper proportion nor available in sufficient quantity at the right time for the best results in apple production. It thus becomes essential for the best results to supplement the mineral elements by a judicious use of the phosphates and potash even on such forest soils.

New Montana Apple-Box Law

A new law which is now in effect has lately been brought to the notice of all the apple shippers who use Montana as a field for a market for their apples. A digest of the law is as follows: "The standard size of the apple box shall be of the following dimensions, when measured without distension of its parts: Depth of end, 10½ inches; width of end, 11½ inches; length of box 18 inches; inside measurements, as near as possible 217½ cubic inches. Any box in which apples shall be packed and offered for sale that contains less than the required cubical content must be marked 'short box' on one side and one end with letters one inch high. The box when packed and offered for sale shall bear upon it in plain figures the number of apples in the box (within five apples); the name of the firm, company or organization that shall have first packed or authorized the packing of the same; also the name of the locality where the fruit was grown; also the correct name of the variety of apples in the box; also the grade adopted by the grower, firm, company or organization that authorized the packing of the fruit. The grade adopted are extra fancy, fancy and "C" grade. Section 7. All apples offered for sale in this state in any other manner than in the standard box provided for in this act shall be marked and sold as cull apples. The penalty is a fine not less than ten dollars or more than fifty dollars."

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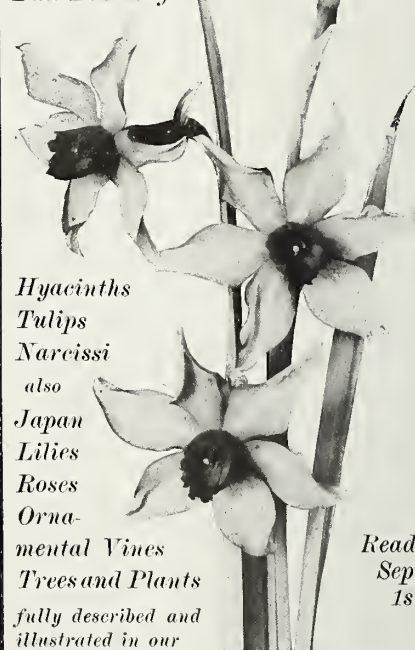
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Cider Vinegar and Its Making

By P. J. O'Gara, Pathologist, Medford, Oregon

WHILE vinegar may be made from a number of different products, such as fruit juices and various sugary or starchy matters, this article will consider the making of vinegar from pure apple juice only, and for the purpose of giving information to those interested in saving the cull apples which would otherwise go to waste. The important facts concerning the process of vinegar making will be stated as briefly as possible. It is generally conceded that not more than 60 per cent of the apples actually grown in the United States are accounted for in general statistics. The 40 per cent wholly unaccounted for are either consumed by the growers or go to waste on the farms where grown. This 40 per cent will represent the enormous total of 100,000,000 boxes, and there is no doubt that the actual waste will represent fully half that amount. Practically all of this loss could be turned into valuable apple juice, cider or vinegar.

It has been determined that the average water content of the whole apple varies from 80 to 86 per cent of the total weight and the dry matter from 14 to 20 per cent. However, with the ordinary methods of crushing and expressing the juice not much over half of the juice originally contained in the fruit is recovered. Under the very best conditions only 70 per cent of the total moisture content of the apple is extracted. With the common grater or crushing machine and the ordinary hand press 50 per cent of the total weight is about all that may be expected. A box of apples weighing 50 pounds net will yield about 25 pounds, or three gallons of juice. This has been obtained from such varieties as are commonly grown in this district, namely, Red Cheek, Jonathan, Wine-sap, Newtown and others. It is possible that three gallons of juice per box of apples is a high average to be expected where a poor grating machine and a small hand press are used; two gallons would be nearer the average. It pays to crush the apples well before putting them into the press. As far as possible the cells should be broken so as to release their contents.

The weight of an equal volume of apple juice or must is greater than that of water, the specific gravity being about 1.055. In other words, apple juice as it is expressed from the fruit is about 5½ per cent heavier than water. The total solids represent about 14 per cent; total

sugar about 11 per cent; malic acid about 0.5 per cent; the remainder being water. Not all of the sugar is taken in the juice, as almost one-half of the total sugar contained in the apple is left in the pomace. The sugar content of the fruit is the important consideration, and for this reason every care should be taken to get the juice from the pomace. It must be understood that

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dirty fruit or badly decayed fruit should not be used. If the apples have been lying on the ground and are covered with dirt they should be washed. If convenient, a hose with water under pressure is a good way to remove the dirt quickly. Decayed fruits should never be used, as by so doing certain organisms are introduced into the juice which will tend to spoil the flavor of the final product. Furthermore, the introduction of foreign organisms into the juice will interfere with the normal alcoholic and acetic fermentation.

As soon as the juice has been expressed from the fruit it is best to place the juice in some large receptacle and permit it to stand for a few days before barreling it. By doing this a considerable amount of solid matter held in suspension will settle before the juice is placed in the barrels. All containers should be well cleaned, and it is best to scald them with live steam or boiling water. When the juice has stood long enough to permit the solid matter to settle it should be put into barrels or casks, which should not be filled to more than two-thirds or three-fourths of their capacity. It is a good plan for the vinegar maker to have a specific gravity hydrometer in order to test the juice before it is put into the barrels. As stated above, the juice of most of our fall and winter varieties will test 1.055 specific gravity. This juice will test a little more than 11 per cent sugar, and if properly handled will make vinegar containing 5½ per cent acetic acid. As the juice ferments its specific gravity will decrease and when it has reached about 1.000 or unity all the sugar will have disappeared through conversion into alcohol. In practice not all of the sugar is converted into alcohol, and therefore the specific gravity is usually a little greater than water.

In order to cause the sugar in the apple juice to be converted into alcohol it is best to add one cake of compressed yeast to each five gallons of the juice. The yeast should be softened with lukewarm water before putting it into the cask containing the juice. The temperature of the storage room should be such that the juice will be held at a temperature of 65 to 75 degrees Fahrenheit. At such temperatures the yeast plant (*Saccharomyces cerevisiae*) grows more rapidly than at lower temperatures, hence fermentation is more rapid. Higher temperatures will not be injurious to the yeast plant, but there may be a loss of alcohol by evaporation. The addition of the yeast plant to the juice as indicated, and the keeping of the temperature at the optimum point, will result in reducing the period of alcoholic fermentation fully one-half.

After alcoholic fermentation is completed, which may be ascertained by the use of the hydrometer, another group of micro-organisms changes the alcohol into acetic acid. The principal organisms causing acetic fermentation are *Bacterium aceti* and *Bacterium pasteurianum*, and pure cultures of these organisms may be obtained for

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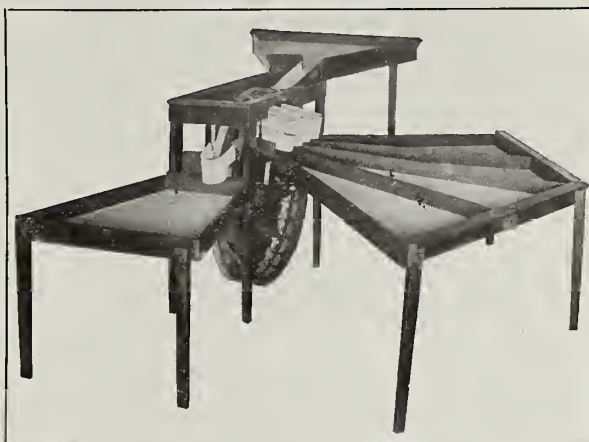
E. A. FRANZ CO., Hood River, Oregon

the purpose of inoculating the apple must after the sugar has been converted into alcohol. After alcoholic fermentation is completed and before the vinegar germ is introduced it is best to draw off the clear portion of the liquid and thoroughly rinse out the container. The clear liquid is then put back. Finally, add about a gallon or two of good vinegar to each fifty gallons of liquid so as to acetify it. A small quantity of mother of vinegar may be added or the liquid may be inoculated with a pure culture of vinegar ferment, which may be secured from the United States Department of Agriculture, Washington, D. C. If natural fermentation is depended upon, old vinegar barrels in which good vinegar has been produced are the best. New barrels of any kind should be washed and scalded. After the barrels have been cooled they should be rinsed with some good vinegar or mother of vinegar should be added before the addition of the juice. As in the case of alcoholic fermentation, the most satisfactory results for acetic fermentation are obtained by having the temperature of the liquid between 65 and 75 degrees Fahrenheit. The containers should be only partly filled, as indicated above, and free access of air should be permitted. If the barrels or casks are placed upon their sides and two-inch holes are bored in each head, one near the surface of the liquid and one near the top of the cask, free circulation of air is assured. These holes should be covered with varnished metal netting to prevent the entrance of vinegar flies.

As indicated above, it will be understood that the time necessary for the conversion of the sugar into alcohol and the alcohol into acetic acid depends largely on the temperature, presence of the proper organisms and ready access of air. The temperature at all times should be as near 75 degrees Fahrenheit as possible; yeast plants should be present in sufficient numbers to control the first stage of the fermentation and give rise to alcohol by a change of the sugar. Specific bacteria are also needed for the second stage in vinegar fermentation. They must be in sufficient numbers to control acetic fermentation and should be added in the form of mother of vinegar or from pure cultures of the vinegar germ grown under laboratory conditions. The changes taking place in the production of vinegar require oxygen of the air, and for this reason the containers should not be completely filled, nor should they be bunged tightly. Free access of air is absolutely essential to production of vinegar. If the above instructions are carefully followed it is possible to produce good merchantable vinegar in from six to twelve months. If the apple juice has been carefully handled and cleanliness observed an excellent product will result. When acetic fermentation has gone far enough to produce 4½ to 5 per cent of acetic acid the containers should be made as full as possible and tightly corked in order to prevent destructive fermentation of

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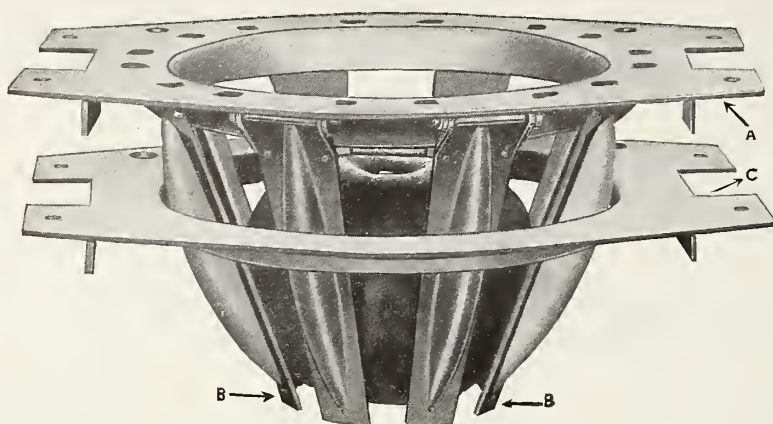
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Pacific Coast Sales Agents

acetic acid and consequent deterioration of the vinegar. If desired the vinegar may be drawn from the barrel or cask, filtered and bottled.

Vinegar has been defined as "A condiment made from various sugary or starchy substances by alcoholic and subsequent acetic fermentation." In the United States "Standards of Purity for Food Products" vinegar made from apples is defined as follows: "Vinegar, cider vinegar, apple vinegar is a product made by the alcoholic and subsequent acetous fermentations of the juice of the apple and contains not less than 4 per cent acetic acid and not less than 1.6 per cent of apple solids." If vinegar is made from pure juice in the way indicated in this article, there will be no difficulty in meeting the legal requirements. Starting with an apple must containing 11 per cent of sugar, the final product should easily contain more than five per cent acetic acid, which is more than required by law.

Outline of the Process of Making Cider Vinegar.—1. In order to make wholesome vinegar only clean fruit should be selected. Rotten fruit will be sure to injure the final product. If fruit is dirty wash it before crushing. 2. The fruit should be well ground or crushed before putting it into the press. As far as possible the cells should be broken so as to release the contents. If the crushing and pressing are well done a box of apples weighing 50 pounds net should yield from two to three gallons of juice. This juice or must will contain 11 per cent sugar, and with proper handling should yield a 5 to 5½ per cent vinegar. 3. The juice should be allowed to remain for a few days in a vat or barrel so as to permit the solid matter held in suspension to settle. Only wooden containers should be used. All containers should be thoroughly cleaned with boiling water. Live steam may be used to good effect. Never put the juice into a dirty barrel, nor into a barrel containing vinegar or mother of vinegar. It must be remembered that alcoholic fermentation cannot take place in the presence of acid of one-half per cent or over. 4. When the apple juice or must has been put into a clean barrel or cask add one cake of compressed yeast for every five gallons of the juice. The yeast should be first dissolved in lukewarm water. Fill the container to about two-thirds its capacity. The openings should not be closed. It is best to place a varnished wire screen over them so as to admit air and keep out vinegar flies. The yeast plants will set up alcoholic fermentation, which should be completed in two to three months if the juice is kept at a temperature of 65 to 75 degrees Fahrenheit. When the sugar has been converted into alcohol the specific gravity of the liquid should be about that of water. This can be ascertained by means of a hydrometer. 5. When alcoholic fermentation has been completed draw off the clear liquid and thoroughly cleanse the barrels or casks. Then put the liquid back into the containers and add a gallon or two of good

Quality Bespeaks Quality

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is a necessary factor in the marketing of good fruit or any other commodity of high quality. It establishes a standard for the goods it represents and brings returns. Each sheet bears a selling message and creates an impression in accordance with its own quality. It is what printed matter really *does*, not what it *costs*, that determines its true value. By entrusting your orders to us you are assured of the best work and service at the lowest consistent prices. We make a specialty of out-of-town orders. Write us, giving specifications of your work and we will give estimates by return mail. You will find us prompt, accurate and equal to anything in the production of good printing. Our system permits of no waste of time or material and insures to the purchaser full value. Our equipment is unexcelled and supplemented with skill at every point. "Better Fruit" is printed by us and is a fair sample of our work.

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Orchard Yarn

A splendid means for supporting heavily laden branches and keeping fruit trees in shape. To provide props is quite a problem in many districts. Yarn is inexpensive, is readily obtained and easily tied. Branches sway naturally and do not chafe as with props. Put up in convenient packages and sold by all dealers selling cordage.

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Portland, Oregon

vinegar to each fifty gallons of liquid so as to acetify it. Mother-of-vinegar or a pure culture of the vinegar germ (*Bacterium aceti* or *Bacterium pasteurianum*) may then be added so as to hasten the process of acetic fermentation. The same temperature should be maintained as in the case of the alcoholic fermentation. Do not completely fill the containers. Permit the free access of air by leaving openings in the heads of the barrels. The free access of air is important and will hasten the process very materially. At the end of three or four months, depending upon temperature conditions, degree of aeration, and the quantity of alcohol present, the vinegar fermentation will be finished. Starting with 11 per cent sugar in the must, the resultant product should contain 5 to 5½ per cent acetic acid. It should easily contain 1% per cent solids. 6. When acetic fermentation has been completed, the container should be completely filled and tightly bunged, so as to prevent destructive fermentation of the acetic acid, and then placed in a cool cellar. If desired, the vinegar may be filtered and bottled for the fancy trade.

A Chance to Co-Operate

It has always been the aim of "Better Fruit" to secure advertising for every article that is used by the fruitgrower in growing or handling his crop. In other words, we try to make the advertising columns of "Better Fruit," so to speak, a directory for the fruitgrower for everything that he uses in his business. Growers will find our advertising columns interesting and instructive. Catalogues can be secured from nearly every concern advertising with us. Some of the best authors of the country have stated that they find as much pleasure and interest in looking over the advertising columns of a publication as they do the reading matter. The profession of advertising has some wonderful talent and employs some of the highest-priced men of the country. It is their business to get up an attractive ad and to make it interesting, instructive and conclusive. Please mention "Better Fruit" when writing advertisers. "Better Fruit" published 52 pages in the month of July, while many of our best agricultural and horticultural publications only published sixteen or twenty pages. The standard of "Better Fruit" is always maintained.

Economy in Picking

It is the disposition of the fruitgrower, possibly more so this year, to make the serious mistake, which is a general one, of using any kind of old ladder for picking. There are a number of light ladders for picking offered for sale which are easy to handle, firm to stand on and not taking up much space, so that a man can place the ladder in between the branches without bruising any of the apples hanging on the limbs and can pick the apples from the interior of the tree as well as from the outside.

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Pear Pests and What to Do for Them

By C. E. Whisler, Medford, Oregon

WE are quite inclined to look upon every apparent hindrance to our success as being a great misfortune, but such conclusions are only the result of a very narrow range of vision. Man's every activity is circumscribed by limitations, and those limitations are a blessings, not a curse. As said by Winwood Reade, "Life is a tragedy," and "The book of nature is inscribed in blood and tears," and Darwin shows us that if the eight million eggs contained in the roe of a single codfish developed into adult codfishes that the sea would quickly become a solid mass of codfish. This tragedy is our salvation and imposes a tax on our industry and intelligence, and success comes only to him who is able to progress along the line of resistance. Pear pests are a resistance, a blessing in disguise, and ever present a challenge to the skilled husbandman, which challenge he is ever ready to accept. The pear has its

share of pests, and it is the purpose of this article to deal only with the general infections that must be combated in most sections where pears are grown.

The more serious pests are the pear slug, pear scab, San Jose scale, codling moth and blight. The slug belongs to the snail family, but is without the snail casing. It is a slimy little animal from one-quarter to one-half inch long and in diameter from the size of a large sewing needle to that of a darning needle; head is larger than any other portion of the body, usually of a dark brown color. Its attacks are more vicious on young trees from one to five years old, but by no means confined to them. Its work is upon the leaves of the tree, eating out the tissue and leaving the web or framework of the leaf. It thus robs the tree of its lung capacity and retards its growth, but is seldom fatal to the tree. It makes its attack

about the first warm settled weather and is quite persistent. Being an eater it is easily poisoned, and the most successful remedy is arsenate of lead as used for codling moth. Pear scab is a fungus, consequently a spore. It belongs to the same family as smut. Is treated in pears the same as in apples. Bordeaux has long been regarded par excellence as a fungicide, but is gradually giving place to lime-sulphur solution. San Jose scale on pears is treated as on other fruits; generally one application of lime-sulphur solution once a year before the trees come in bloom is sufficient. The spray solution should be made by mixing one gallon of thirty-degree stock solution with nine gallons of water and should be thoroughly applied with strong force. The proper time for this spray is after the first four or five days of warm sunshine in the spring.

Codling moth is met with wherever pears are grown to any extent. Fortunately the picking of pears in a premature state and allowing them to ripen up after being picked has largely eliminated the dire effects of codling in the pear as, many more infections will appear in the pears that have been allowed to ripen on the trees than

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among those picked when the pears are hard and without aroma. The fighting of codling moth in the pear is much more simple and easy than is the fighting in the apple, owing to the characteristic difference in the growth of the fruits. The calyx of the apple grows entirely closed, encasing a small cavity, which it is essential to fill with poison in order to successfully combat the codling, and as this grows shut shortly after the petals fall it requires rapid and quick work to get this done before they close. With the pear, however, it is different, as the calyx of the pear never grows shut and the calyx may be filled at any time. The largest per cent of codling infections, both in the apple and the pear, are made through the calyx, and this should be carefully guarded. Arsenate of lead is the poison most used and one thorough spraying when the pears are about the size of filberts should be sufficient, but circumstances must govern. The pear is not as inviting to the codling moth as is the apple. This is shown by the fact that where the pears are in close proximity to apples that the apples may be badly infested while the pears may be but slightly infested, and if picked before ripening may be entirely free.

Blight offers the greatest menace to the pear grower today of all known obstacles. Compared to it the others are easy. What is it? Where does it come from and what shall we do? are the questions every pear grower is asking himself as well as his neighbor, and his neighbor is doing the same. It is no new disease any more than is appendicitis. It has long existed, but its character is being better understood. Pathologists have spent much time and energy in a study of this dread disease and have come to some quite well established conclusions. First. What is it? It is a death-dealing effect to the tree itself, whereby the tree takes on a dead appearance, beginning usually at the extremities of the limbs and extends downward to the body of the tree, but may also attack directly the body of the tree. If in the limbs, the first evidence will be in the drooping leaves, then in blackened twig, then in deadened limb and finally in complete death of the tree. If in the body of the tree, the first evidence will be a darkened discoloration of the wood. It will

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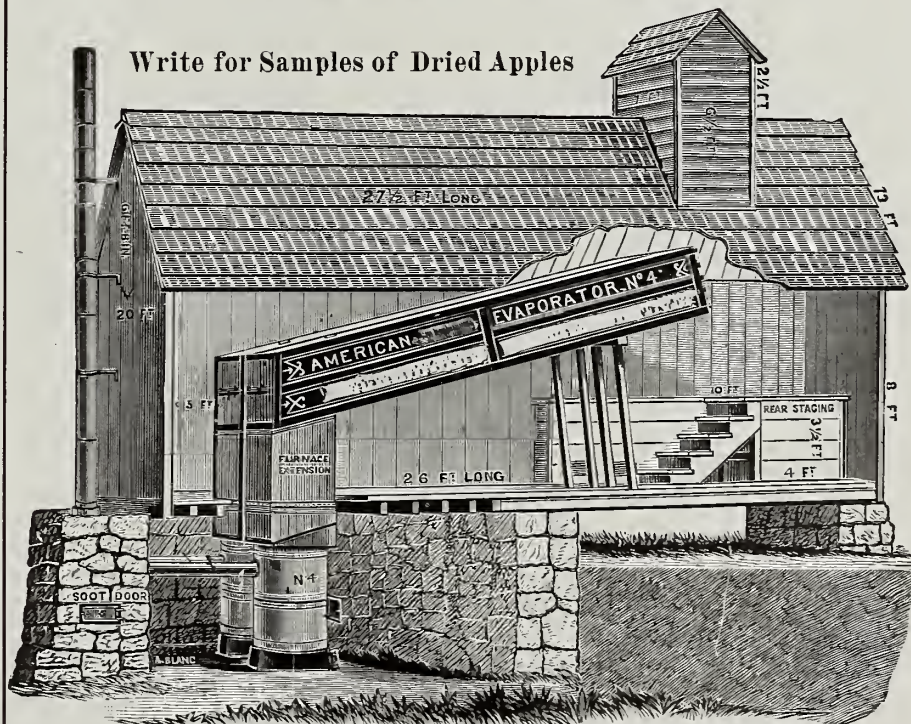
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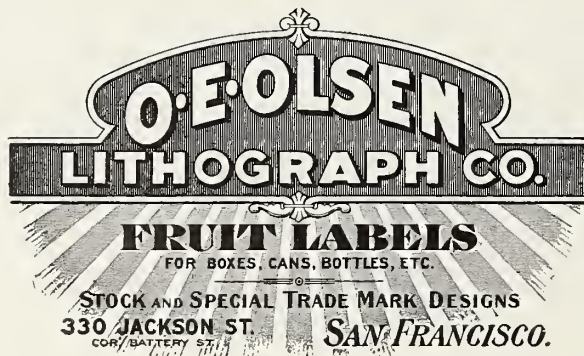
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Plough Hardware Company	Wenatchee, Washington
Rogue River Fruit and Produce Association	Medford, Oregon
C. J. Sinsel	Boise, Idaho
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MANUFACTURED BY

The Grasselli Chemical Co.

CLEVELAND, OHIO



attack the bloom, the twig, the body or the fruit. That the effect is produced by a germ seems to me to be too well established to admit of dispute. The simple fact that infections may be made by inoculation (which is so easily proven) certainly confirms that position. However, much confusion seems to arise over the fact that it seems to be governed by climatic conditions as well as by soil, and also varieties of pears. To all of which the answer is that conditions are hereby offered which are conducive to ready infection and rapid spread. Second. Where does it come from? The idea held by some that it is carried by birds, and by others that it is carried by the wind, only shows ignorance of its character. It is impossible for either to happen. It is not a spore that can float through the air, neither is it of such a character that birds could come in contact with it and transmit it to other trees. The infected tree often exudes a thick, sticky, sweetish, dark-colored substance resembling molasses. One drop of this contains millions of germs. It could not be blown by the wind any more than could molasses or glue. But its sweetness is very attractive to insects such as are feeders on sweets, and by them is carried from tree to tree and from twig to twig. This has been carefully watched and well established. Many trees in different parts of an orchard which have been absolutely protected from insect infection by being entirely encased in some enclosure have come through the season without a particle of blight, while all around them were trees that had been fully exposed which were badly infested with blight. This certainly proves it infectious and that the cause is not climatic. If there were no typhoid fever germs there would be no typhoid fever, and if there were no blight germs there would be no blight. But to ask where the germ came from is almost equivalent to asking where matter came from. Third. What shall we do? A thorough knowledge of the disease, with its course of action, suggests its own remedy. As science has determined the character of the disease so has it also determined the treatment. As the doctor cuts out the cancer germ so does the skilled husbandman cut out the blight germ, and as skill is required in the one so is it in the other. A single germ multiplies very rapidly in either case, and so long as one remains the health of the patient is threatened. Herein lies a difficulty. Too much unskilled butchery. Cut it out, but in doing so be sure that you have it all. If in the twigs or limbs, cut well below it and disinfect the tools used after each cut. If in the body of the tree, it

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with the Gearless Improved Standard Well Drilling Machine. Drills through any formation. Five years ahead of any other. Has record of drilling 130 feet and driving casing in 9 hours. Another record where 70 feet was drilled on 2½ gal. distillate at 9c per gal. One man can operate. Electrically equipped for running nights. Fishing job. Engine ignition. Catalogue W 8. REIERSON MACHINERY CO., Manfrs., Portland, Ore.

may be cut out by cutting away all bark wherever any discoloration of the bark, the cambium layer or the wood next to the cambium appears. When this is carefully done disinfect the entire wound made, also tools used, with a disinfectant. The proper disinfectant to use is bichloride of mercury put up especially for the purpose with directions on each bottle.

The more serious infections are through fruit spurs on the body of the tree, through watersprouts and through sprouts from the roots of the tree, all of which should be persistently kept out. Under favorable conditions the pear industry is as inviting as any fruit industry and the enthusiast will find much pro and con.

Adulteration and Misbranding of Hairy Vetch Seed

United States Department of Agriculture Report

THE Department of Agriculture regards the hairy vetch as so important a winter cover and green manuring crop that it is continuing its campaign to detect adulteration and misbranding of seed. In 1912 there were 207 different samples of this seed examined, and of these seventeen contained no hairy vetch seed whatever, while 190 samples consisted of a mixture of hairy vetch, spring vetch and weed vetch. Circular No. 45 of the office of the secretary United States Department of Agriculture, 1913, contains the name of the dealers and the extent to which the seed was adulterated and will be supplied without charge on application. The department regards this adulteration as particularly serious because whereas true hairy vetch seed costs from four to six dollars a bushel, the other vetches used for adulterating cost two dollars or less per bushel. Even more significant, however, is the fact that the hairy vetch does well as a winter crop in practically all climates, whereas the spring vetch, or a strain of the spring vetch known as "a winter vetch," is not hardy in cold climates and does well only in the Coastal Plain States and in certain of the Pacific Coast States. The hairy vetch, therefore, is one of the very few leguminous crops for cover or plowing under

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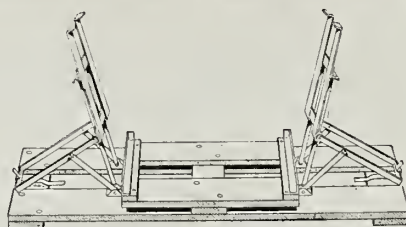
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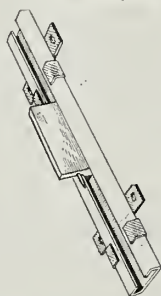


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"Ideal" Picking Bag

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For fuller details and quantity prices see ad in July "Better Fruit."

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Southern Oregon Nursery
YONCALLA, OREGON

which do well in cold climates. It is particularly useful because it can be planted in the late fall and will furnish its crop before the time for spring sowing, and is valuable in tobacco fields because it can be sown after the harvest and plowed under before the next planting of tobacco, and is also an important orchard cover. It adds materially to the nitrogen and humus content of the soil.

A very simple method by which the farmer can detect the seed of most other vetches from hairy vetch is as follows: " * * * The difference in color of the interior of the seed shown by different kinds of vetches affords a ready means for detecting the use of other vetch seed as an adulterant of hairy vetch. Crushed hairy vetch seed is of a lemon-yellow color, somewhat lighter on the flat than on the rounded surface. The crushed seed of most of the other vetches occurring with the seed of the hairy vetch varies in color from a dark fawn to reddish orange. Crush a small handful of seed and if there are any fawn, salmon or reddish orange colored pieces the seed is not pure hairy vetch."

Farmers having a doubt about the hairy vetch seed which they are buying may submit a sample to the nearest of the following seed laboratories, which will tell them exactly the nature of the seed they purpose to sow: Seed Laboratory at Washington, D. C.; Branch Seed-Testing Laboratory, Agricultural Experiment Station, Baton Rouge, Louisiana; Branch Seed-Testing Laboratory, Oregon Agricultural College, Corvallis, Oregon; Branch Seed-Testing Laboratory, Purdue University, LaFayette, Indiana; Branch Seed-Testing Laboratory, California Agricultural Experiment Station, Berkeley, California.

Most of the hairy vetch seed now sold in this country is imported from Russia. The recent investigation in Russia by government seed specialists shows that the collectors of Russian seed were not taking pains to keep it from being mixed with other vetches, and especially weed vetches. Much of this seed grows wild in rye fields with a number of weeds. The remedy suggested by the department for this adulterated seed is for the American farmer to raise his own hairy vetch seed and so be certain that he is getting pure seed. Incidentally, as soon as the American farmer begins to raise his own hairy vetch seed he will get it at a much lower price than is now asked for the imported and frequently adulterated or misbranded article.

Almost the whole world knows of Hood River as a place that produces the best fruits, and all of Hood River Valley should know, and could know, that there is one place in Hood River, under the firm name of R. B. Bragg & Co., where the people can depend on getting most reliable dry goods, clothing, shoes and groceries at the most reasonable prices that are possible. Try it.

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How British Columbia Fruit Growers Have Organized

By R. M. Winslow, Provincial Horticulturist, Victoria, British Columbia

THE conclusion of the season of 1912 found the fruit growers of British Columbia in very much the same unsatisfactory position as prevailed south of the line. While the crop had been a bumper one, with shipments approximating 1,000 carloads, prices had ruled so low as to reduce the growers' returns below the bare cost of production. Not only had United States fruit been dumped on the Canadian markets on consignment, regardless of the returns to the producer, but the numerous marketing associations and companies within our own fruit districts had cut prices against each other. Competition had been both external and internal, but the fundamental cause of ruinous competition to both types was undoubtedly the lack of such co-operative organization as would prevent the shipment of fruit to overloaded markets and the unnecessary cutting of prices already too low. The low prices reduced the earnings of the marketing organizations as well as of the fruit growers, and the conclusion of the season's business showed some of the associations requiring liquidation and reorganization.

As soon as the condition became fully understood the growers took steps to remedy the situation. Feeling that an effective remedy lay in a more perfect co-operative organization, with sufficient finances at reasonable rates of interest, they took the matter to the Provincial Government through the British Columbia Fruit Growers' Association in January of the present year. The Provincial Government, recognizing the gravity of the situation, met the executive of the British Columbia Fruit Growers' Association in the most helpful spirit and passed an amendment to the Agricultural Associations Act, under which our co-operative organizations are incorporated. Under this amendment the government may loan to associations formed under the act an amount up to 80 per cent of their subscribed capital, providing 20 per cent is paid up by the growers; such loans bear interest at 4 per cent per annum and are payable in a period of twenty years on

a sinking fund basis, which brings the total cost of the loan up to about 7½ per cent annually. As security the government has a first mortgage on all the real property of the association and in addition may call up the unsubscribed capital. This is the first application of

the principle of cheap long-term loans to agriculture in this province.

To promote the work of reorganization the Deputy Minister of Agriculture, Mr. W. E. Scott, chose Mr. R. Robertson, head of the firm of Robertson & Morris, of Vancouver, B. C., and with him vis-



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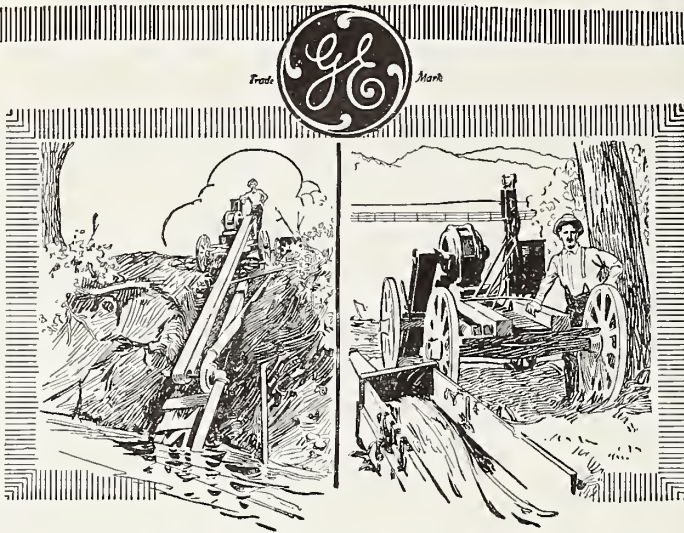
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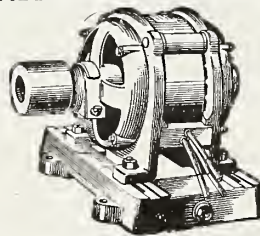
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ited all the Okanogan points in need of new organizations, explaining the government's offer and discussing the details of the organization of new local associations with a view to their consolidation in one central selling agency. Where necessary the old organizations were put into voluntary liquidation and steps were taken to organize new local associations, each of which is called a union. Such unions were formed at Salmon Arm, Enderby, Armstrong, Vernon, Kelowna, Peachland, Summerland and Penticton. Two delegates from each of these places were appointed to attend a meeting at Vernon, where the formation of the central selling agency was agreed upon, Mr. R. Robertson being appointed by the growers to organize the same. The central selling agency was incorporated under the Companies

Act as "The Okanogan United Growers, Limited," with headquarters at Vernon and with Mr. R. Robertson as manager.

The central selling agency has as its stockholders representatives of the various local unions. Its board of directors is a body of eleven; the three larger points having two directors, the others having one. In all matters of policy each local has votes in this directorate roughly in proportion to its shipping tonnage; the three larger points having three votes, three others having two votes, and two having one vote each. It is expected that the central selling agency will handle about 70 per cent of the fruits and vegetables of the Okanogan, and their total shipments are expected to be about 1,500 cars. The local organizations each have a warehouse manager and provide a packing

house or houses. The locals will grade and pack the fruit in accordance with rules adopted by the union, which follow closely those made out by the North Pacific Fruit Distributors. The locals assume all packing and warehousing charges, meeting them by an assessment on the fruit. They ship direct or to assembly points on orders from the central agency. Fruit of each grade and variety from all associations will be pooled, the duration of each pool depending on time of the year and the stability of the market. Payments for fruit sold will go to the central agency, and after the deduction of a brokerage charge for selling, the exact amount of which has not yet been fixed, amounts will be returned to the locals, and after a charge is made by the locals sufficient to cover their administration and packing expenses, the growers will receive the net returns.

The Okanogan United Growers, Limited, is expected to market its product very largely through the fruit jobbers on the prairie and in the Coast cities of British Columbia. Mr. Robertson is getting together a thoroughly competent staff of salesmen, such as the smaller size of the individual organizations of

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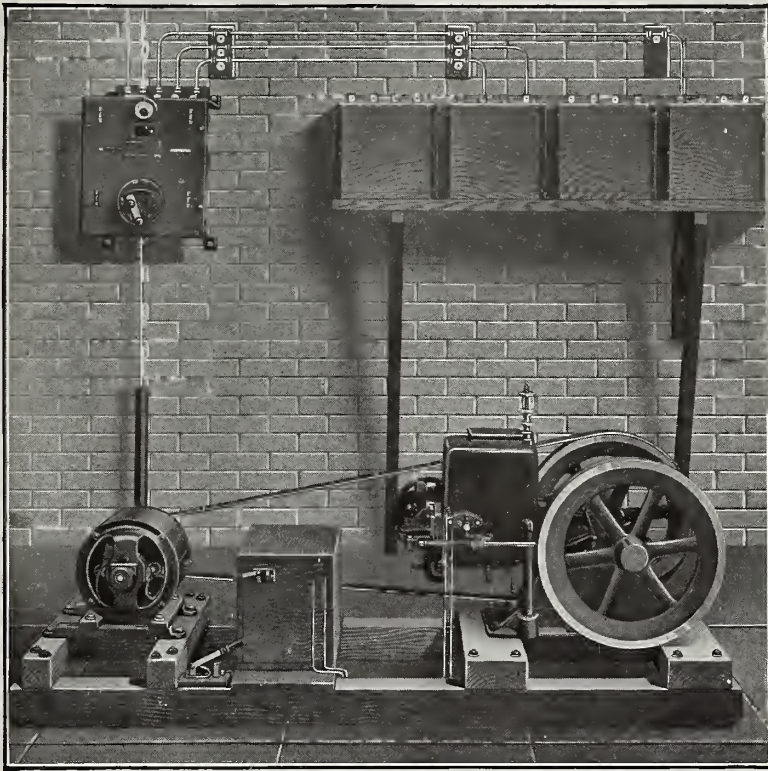
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previous years would not permit. The new organization is fortunate in having in its initial year a reasonably large crop to dispose of. The total shipments from the territory which it will serve, that is, the Okanogan Valley, including Salmon Arm, will aggregate about 685 straight carloads of fruit, together with 1,000 to 1,200 tons shipped by express. It is expected that the Okanogan crop will be about 480 cars of apples, 50 of crabs, 50 of prunes, 20 of plums, 30 of pears and 55 of peaches. The United Growers may also handle the Grand Forks crop, which will run about 30 cars of apples and 5 of prunes. The West Kootenay crops, which will total about 40 cars, mainly apples, and the Similkameen crop, about 25 cars, will be handled by local organizations. In the Okanogan there will be operating, besides the Okanogan United Growers, three or four independent firms, handling perhaps 30 per cent of the crop. These independent shipments will be in fairly strong hands as a whole, so that destructive competition such as characterized last year's movement will be largely eliminated. The successful creation of the Okanogan United Growers by the aid of the Provincial Government has established a feeling of confidence among the growers in the outcome of the year's business that it would have been impossible to attain in any other way.

Bartlett Pear Pre-Cooling

A RECENT article entitled "Bartlett Pear Pre-Cooling and Storage Investigations in the Rogue River Valley," by A. V. Stubenrauch, pomologist in charge, and H. J. Ramsey, assistant, has appeared in the Bureau of Plant Industry Circular No. 114. The following extracts from this article will be of interest to our readers:

"The work was conducted with a view of determining whether the usual Bartlett pear season of the Northwest could be extended or lengthened sufficiently to enable the bulk of the crop to reach Eastern markets after the California season closes. Pickings were made from three different orchards, representing three different types of soil. Four pickings were made from each orchard at intervals of a week. Thirty-two boxes of fruit were picked at each picking from each orchard. In order to test the effect of pre-cooling before and after packing, half of each pick was packed as soon as possible after picking and the other half was held loose in the picking boxes. The fruit was then placed in cold storage at a temperature of twenty degrees and as soon as the fruit in the packages reached thirty-two the temperature in the room was allowed to rise to thirty or thirty-two degrees. The loose fruit in the picking boxes cooled to the desired temperature in less than half the time required for wrapped packed fruit. Four withdrawals from each lot were made, after one, two, three and four weeks, respectively. After withdrawal, the various lots were placed in an iced

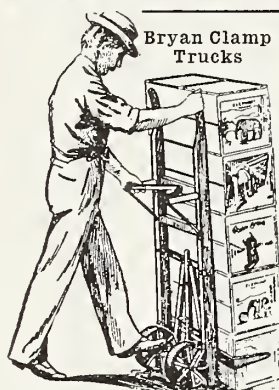
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refrigerator car held at Medford, each lot being held in the car for twelve days, this being about the average time required for cars to reach New York. The total deterioration, as recorded by actual inspection of every fruit in each box, included (1) wilt or shriveling, (2) brown stain or scald, (3) fungus decay, (4) partial physiological decay, and (5) complete physiological decay. Wilting or shriveling always started at the stem end. Analysis of the data from the second inspection shows that most of the deterioration, especially shriveling, fungus decay, partial physiological decay and brown stain, occurred in the first pick. Temperature conditions during the time of holding in the warehouse apparently affected the percentage of partial physiological decay found in the second and third inspection of all lots. The delayed cooled and stored lots showed considerably more wilting and shriveling and on an average more fungus decay and more complete physiological decay than the lots immediately cooled and stored.

"Further study is necessary in order to determine the factors of seasonal influence, which must be taken into consideration before all phases of the problem are solved. The results indicate that the marketing season of Bartlett pears can be lengthened or extended six or seven weeks, provided some changes are made in the method of handling the crop. The pickings as a rule should be made fully two weeks later than is the ordinary practice. At this time the fruit will be of a larger size, of better quality, and in every way will hold up better in storage and in transit. There will be some dropping where the fruit is held on the trees two weeks longer, but this will largely be offset by the increase in size and the improvement in keeping quality. It is also of the greatest importance that the fruit be placed in storage or in an iced refrigerator car as soon as possible after picking, as a delay in cooling of even two days caused much more deterioration than occurred in fruit stored immediately, whether packed before or after cooling. The results also indicate that the practice of picking the trees clean at one picking, especially early in the season, is not conducive to the best keeping quality and uniformity. Where only one picking is made, and that early, much of the fruit is picked while it is still immature, and this fruit will show a great deal of wilting, shriveling, brown stain or scald, and physiological decay, thereby detracting from the appearance of the pack and lessening the returns from the fruit which was of proper maturity when picked. The pickings can be extended over a longer time than is generally believed to be the case, and this is especially true where two or possibly three pickings are made during the season.

"The results further indicate that when picked at the proper time and when carefully handled and promptly precooled, Bartlett pears stored for four weeks at the shipping point and afterwards loaded into preiced refrigerator

ears and shipped to Eastern markets, will arrive in sound marketable condition and remain sound for a sufficient time to allow reshipment and consequent wide distribution to ultimate consumers. The season can be extended from six to seven weeks by leaving the fruit on the trees two weeks longer than is at present the practice, and by storing for four or five weeks at a temperature of 32 or 34 degrees F. after the fruit has been pre-cooled."

What Is A Winter Bartlett?

By Prof. C. I. Lewis,
Oregon Agricultural College, Corvallis

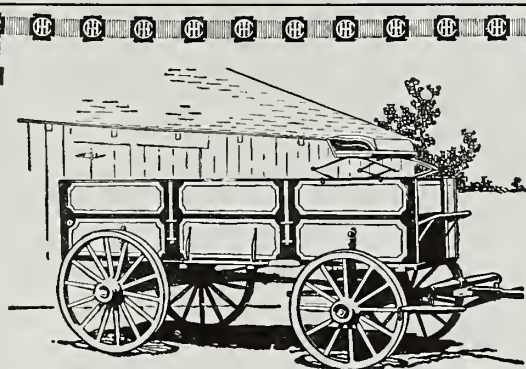
WHILE visiting our fruit fairs in the fall it is not uncommon to find a dozen different varieties of pears all labeled "Winter Bartlett." The writer has been unable to find anyone who could vouch for the identity of the Winter Bartlett. In looking up our more recent literature we find it claimed that it is a pear which originated at Eugene, Oregon, yet authorities who have obtained specimens which they claimed came from the tree at Eugene state that the so-called Winter Bartlett is nothing more nor less than the Glout Moreau, sometimes known as Beuerre d'Hardenpont. If this is true, evidently the Glout Moreau tree was set out in the vicinity of Eugene and, the name being lost, it was decided to call it a Winter Bartlett.

Let us for a moment turn to our European literature. I find in my edition of "The Complete Gardener," which was written largely by De la Quintinye and translated and revised by John Evelyn, George London and Henry Wise in 1710, the following comments on a pear called "La Bon-Chretien de Hyver," which is the European name for the Winter Bartlett. The description, written in 1710, will be interesting to readers: "This is justly preferred before all others, being of greater Antiquity, and has carried this illustrious Name for many Ages. It's Noble to behold, by reason of its long and Piramidical Figure, being usually five or six Inches Long, and three or four Inches Thick, and of a pound weight or more; nay sometimes above two pounds. It's naturally Yellow, with a lively Carnation Colour, when well Expos'd. It lasts very long on the Tree, and endures the longest afterwards in perfect Goodness of any other Pear. 'Tis good Stew'd or Bak'd, if gather'd before it's full Ripe; but when

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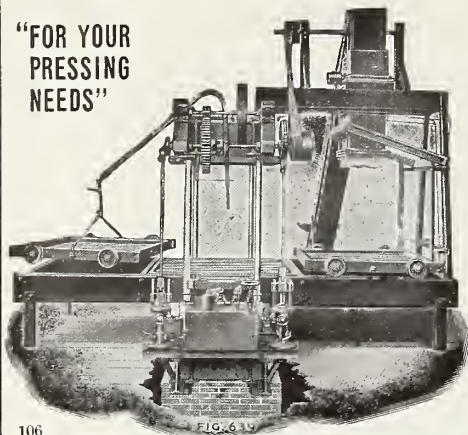
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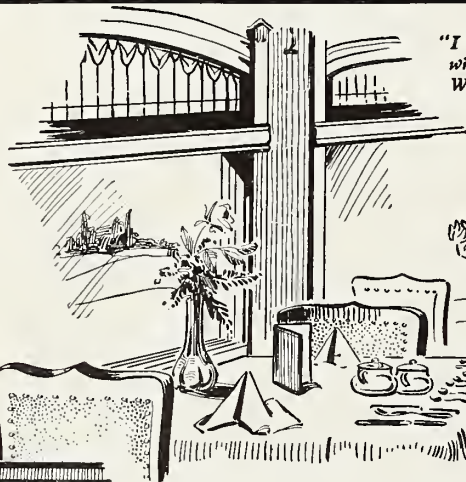
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'tis come to Maturity, and the Ground good and well cultivated, it will continue Mellow for some whole Months together. The Pulp eats short, but Tender enough. Its Taste agreeable and Juice sugar'd, and a little perfum'd. It does best against a South-wall; but tho' our Auther adviseth to Plant them Dwarfs in small Gardens in France; yet the good Success of them in that manner is to be doubted in England. Some persons make different sorts of Bon-Chretiens, as the Long, the Round, the Green, the Golden, the Sattin, &c., but they are all one and the same Fruit; only the Difference of Soils, Expositions, Seasons of the Year; and Condition of the Tree, may make great alterations both in Colour, Shape, Goodness, &c. It should be Grafted on a Quince-stock because on a Free-stock the Fruit grows spotted, small, and crumpled. 'Tis in Perfection in February and March."

In the "Traits des Arbres frutiers," by du Hamel, written in 1768, we find this pear fully described, du Hamel stating that its season is from February to May. John Gibson, an English authority writing in "The Fruit Gardener" in 1768, speaks of the Winter Good Christian, which is the same pear. In Le Verger (publication periodique d'Arboriculture et de Pomologie, dirigé par M. Mas, 1868) we find that the Glout Morceau is fully described, and also the Winter Bartlett, which would indicate that the two pears are in no way identical. In this most excellent work of Mas we find that he has the following to say concerning the origin of this pear: "Origin ancient, often disputed and still unknown; believed, however, to have been known by the Romans, and thought to have originated in a warm country, probably Italy." In fact nearly all the European literature running back over two centuries, which takes in detail varieties of pears, gives considerable space to the Winter Bartlett. We must conclude, then, that there probably is a standard pear known as the Winter Bartlett, but that most Winter Bartletts grown here in America are other varieties. I received some specimens from a grower in North Yakima last fall which seemed to me deserving of the true name of Winter Bartlett. I am hoping to secure a few more samples this fall to compare them with the descriptions given by Mas, du Hamel, Decaisne and LeRoy.

Pear By-Products

The principal utilization of the pear other than eating fresh is along canning lines. In those sections of the United States where Bartletts can be raised the canning industry is of great importance. California is the leading state in Bartlett pear production. It is

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reported that last year one-half million cases of Bartlett pears were shipped out of California. In the Southern States and in the Middle West, and even on the Atlantic seaboard, the Kieffer is a variety that is raised for this purpose. This variety was formerly thought to be practically worthless and when offered for sale at the grocery stores met with very little demand. However, its use for canning is growing more and more each year. Housewives are learning to can it properly and its demand is growing tremendously. There are cities in the East that demand many carloads a day of these pears as long as they can be procured. They ship easily. In fact they have been known to stand shipment loose in the cars and have been shoveled in with scoop shovels. The cheapness with which they can be grown and handled has made them a good proposition financially.

Years ago pears were used very extensively for cider. At that time it was known as "perry," and at one time perry was very popular in this country, and even more so in England. The cider from the pears is said to be heavier and of a better quality than that made from apples. A century ago whole orchards were planted in England and in this country for the growing of pears for perry making. Some of the leading varieties which were grown for such purposes were the Oldfield, Barland, Longland and Taunton Squash.

Pears are used somewhat for drying purposes, although there is a limited demand for this product. The demand, however, is somewhat restricted owing to the fact that the quality of dried pears is apt to run rather low. The improvement of the quality of this product and a movement for better methods in handling and marketing should be materially stimulated. In Germany it is reported that the dried pear is widely used; that it is the staple dried fruit of that country, corresponding to the dried prune or apple in the United States.—Contributed.

Editor Better Fruit:

Each month "Better Fruit" comes to my desk and it is always brim full of good, sound advice. Your article this month "Common Sense Applied to the Fruit Industry" is a splendid one and some very important questions splendidly handled. Fruit prices are too high on the retail markets as compared with the prices the grower receives. With this past season's tremendous crop good apples were selling on the city markets at five, ten and fifteen cents each—in some cases even more. This is not as it should be. As a result of these high retail prices too little fruit is being eaten. I venture the assertion that the consumption of apples has decreased in the past two years instead of increasing, as it should. Here is room for educational work as well as for some plans that will give the people of the cities good apples at reasonable prices. Yours very truly, Stark Bros.' Nurseries & Orchards Co., Louisiana, Missouri.



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The Salem Cherry Fair

[Special Correspondence to "Better Fruit"]

The annual Salem Cherry Fair was held July 3, 4 and 5, the cherry fair being one feature of a three-day Fourth of July celebration. It has been customary for Salem to hold a cherry fair for a number of years, and it has been such a fair as no state could surpass. Such well-known varieties as the Black Republican, the Bing and the Lambert originated in Oregon and it is here where they grow the best. The fair this year was not up to the usual standard. This may be attributed to a number of natural causes. The season was rather late this year and the fair was held a little ahead of the season. Again, this has been the wettest spring since 1894. It has delayed the maturing of the crop, has made it impossible to harvest what was matured and has produced a great deal of cracking. Such conditions make it very hard to put up a good display of fruit. There were very few Lamberts on exhibition, since this variety, as a whole, was not ready to pick. There is also a possibility that holding the fair the Fourth of July is not conducive to the best exhibit. The Fourth of July crowd is not one interested in cherry exhibits and a committee is under a very hard handicap when it strives to hold exhibitions on such days. The Salem Cherry Fair is teaching us one lesson, however, and that is that we need some new flesh-colored varieties of cherries; and it is gratifying to know that the Oregon Experiment Station is trying to help the growers solve this problem and has inaugurated extensive breeding experiments with the cherry.

The fair was held in one of Salem's wide streets. A long, narrow tent was erected. It was so constructed as to give splendid light and to allow good air circulation. In fact it would be hard to beat the exhibition room which was thus constructed.

The entertainment features, such as the parades, were most excellent and rivaled in quality those of the Rose Festival of Portland. Many of our fruit growers will find in the cherry fair an opportunity to spend three or four delightful holidays and at the same time they will be able to gain many points of value to aid them in their fruit growing.

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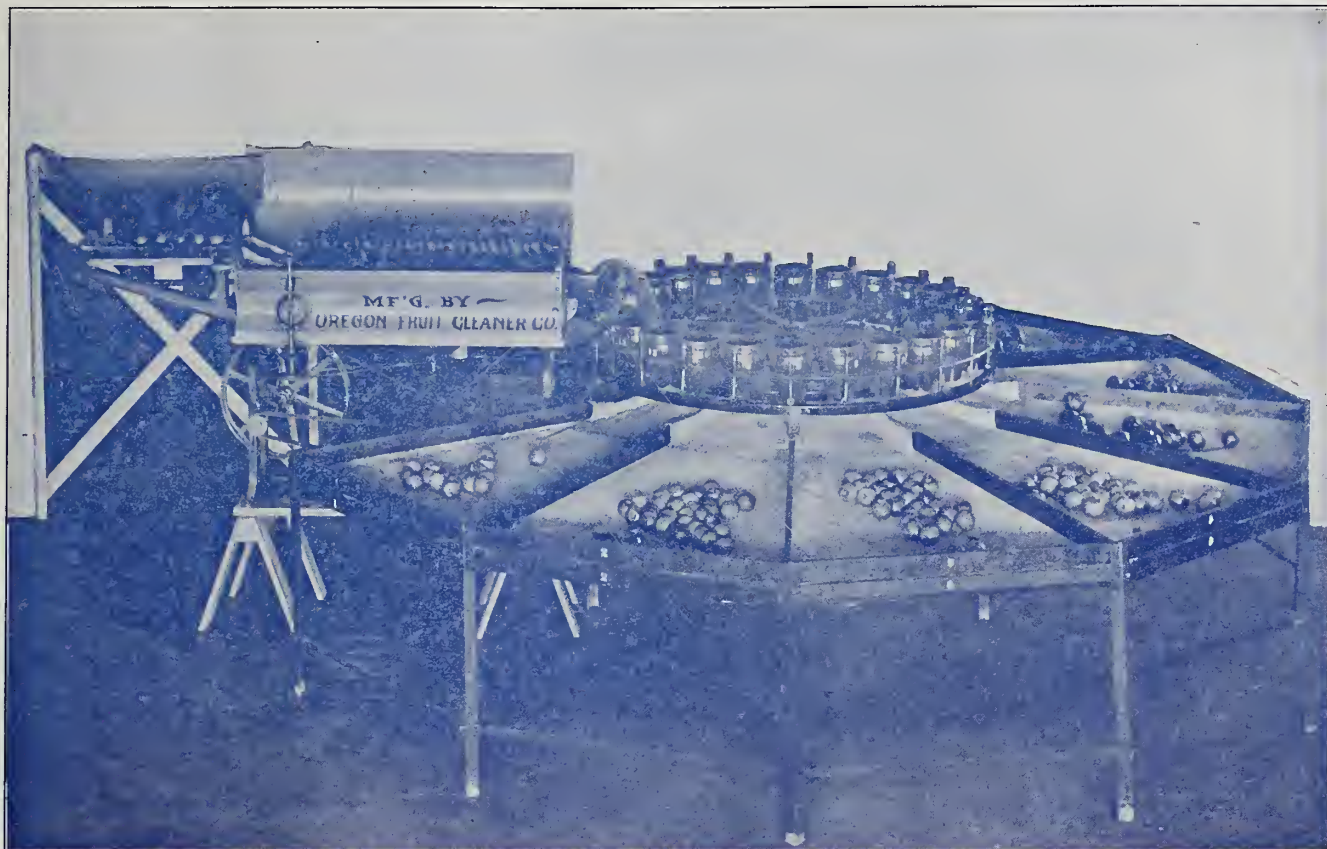
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